Appendix A
ADISS Reports
2008 Boston Harbor Maintenance Dredging

W912WJ-07-C-0023

Trip Information:

| Trip # | 58 |
|--------|
| Tug    | Lemmerhirt |
| Captain(s) | Unknown |
| Scow   | GL65 |
| Type   | Split Hull Scow |
| Technique | Bottom Dump |
| Bin Volume | 5600 cu yd |
| Start Time | 6/11/2008 16:04:05 |
| Init Aft Draft | 19.81 ft |
| Init Fore Draft | N/A |
| Init Aft Bin | N/A |
| Init Fore Bin | N/A |

Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lat</td>
<td>42.417958</td>
</tr>
<tr>
<td>Long</td>
<td>-70.602306</td>
</tr>
<tr>
<td>Aft Draft</td>
<td>18.48 ft</td>
</tr>
<tr>
<td>Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Fore Bin</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Material Source: Unknown  
Material Description: Unknown

Wave Information Recorded: 6/11/2008 4:04:05 PM (Local)
Wave Height: 1.6 ft  Dominant Wave Period: 10.0 sec  NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  
Phone: (401)847-4210  
E-mail: info@adiss-afiss.com

Version: 061308_085412

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information

- **Trip #:** 58
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5600 cu yd
- **Start Time:** 6/11/2008 16:04:05
- **Init Aft Draft:** 19.81 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

Placement Information:

- **Placement Start:**
  - **Time:** 6/11/2008 19:42:49
  - **Latitude:** 42.417958
  - **Longitude:** -70.602306
- **Aft Draft:** 18.48 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 6/11/2008 19:43:40
  - **Latitude:** 42.419234
  - **Longitude:** -70.600611
- **Aft Draft:** 4.16 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

Material Source: Unknown
Material Description: Unknown

Data Information:

- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com

Version: 061308_085412

### Trip Information:
- **Trip #:** 59
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5375 cu yd
- **Start Time:** 6/12/2008 02:58:23
- **Init Aft Draft:** 20.95 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Time:** 6/12/2008 06:55:34
- **Lat:** 42.418723
- **Long:** -70.601264
- **Aft Draft:** 20.95 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Time:** 6/12/2008 06:56:27
- **Lat:** 42.419994
- **Long:** -70.599628
- **Aft Draft:** 9.05 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

### Wave Information Recorded:
- **6/12/2008 2:58:23 AM (Local)**
- **Wave Height:** 2.0 ft
- **Dominant Wave Period:** 11.0 sec
- **NOAA Station:** 44013

**Material Source:** Unknown
**Material Description:** Unknown

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 061308_085359
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information
- Trip #: 59
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5375 cu yd
- Start Time: 6/12/2008 02:58:23
- Init Aft Draft: 20.95 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start: 6/12/2008 06:55:34
  - Latitude: 42.418723
  - Longitude: -70.601264
  - Aft Draft: 20.95 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End: 6/12/2008 06:56:27
  - Latitude: 42.419994
  - Longitude: -70.599628
  - Aft Draft: 9.05 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 061308_085359

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 60
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5500 cu yd
- Start Time: 6/12/2008 15:20:39

Placement Information:
- Placement Start: 6/12/2008 19:00:36
  - Aft Draft: 19.07 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End: 6/12/2008 19:01:17
  - Aft Draft: 4.23 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 6/12/2008 3:06:00 PM (Local)
- Wave Height: 2.3 ft
- Dominant Wave Period: 9.0 sec
- NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 061308_142250
# 2008 Boston Harbor Maintenance Dredging

**W912WJ-07-C-0023**

## Trip Information
- **Trip #**: 60
- **Tug Name**: Lemmerhirt
- **Captain(s)**: Unknown
- **Scow Name**: GL65
- **Type**: Split Hull Scow
- **Technique**: Bottom Dump
- **Bin Volume**: 5500 cu yd
- **Start Time**: 6/12/2008 15:20:39
- **Init Aft Draft**: 19.07 ft
- **Init Fore Draft**: N/A
- **Init Aft Bin**: N/A
- **Init Fore Bin**: N/A

## Placement Information
- **Placement Start**:
  - **Time**: 6/12/2008 19:00:36
  - **Latitude**: 42.419563
  - **Longitude**: -70.600380
- **Aft Draft**: 17.74 ft
- **Fore Draft**: N/A
- **Aft Bin**: N/A
- **Fore Bin**: N/A

- **Placement End**:
  - **Time**: 6/12/2008 19:01:17
  - **Latitude**: 42.420529
  - **Longitude**: -70.598952
- **Aft Draft**: 4.23 ft
- **Forward Draft**: N/A
- **Aft Bin**: N/A
- **Fore Bin**: N/A

## Material Information
- **Material Source**: Unknown
- **Material Description**: Unknown

---

**SAIC Point of Contact**: Marc Wakeman  
**Phone**: (401)847-4210  
**E-mail**: info@adiss-affiss.com

Version: 061308_142250
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:

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Placement Information:

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<tr>
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<td>-70.598103</td>
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<tr>
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<td>Fore Draft:</td>
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<td>N/A</td>
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<tr>
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<td>Fore Bin:</td>
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Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 6/13/2008 5:06:00 AM (Local)
Wave Height: 1.6 ft Dominant Wave Period: 10.0 sec NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 061308_142936
**Trip Information**
- **Trip #:** 61
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5500 cu yd
- **Start Time:** 6/13/2008 05:08:04
- **Init Aft Draft:** 20.95 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information**
- **Placement Start:**
  - **Time:** 6/13/2008 08:21:46
  - **Latitude:** 42.420081
  - **Longitude:** -70.599095
- **Aft Draft:** 20.95 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 6/13/2008 08:22:19
  - **Latitude:** 42.420900
  - **Longitude:** -70.598103
- **Aft Draft:** 7.62 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown
**Material Description:** Unknown

**Data Information:**
- **Type:** ADISSPlay Data.
- **Notes:**
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 061308_142936
### Trip Information:
- **Trip #:** 62
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5700 cu yd
- **Start Time:** 6/13/2008 18:23:28
- **Init Aft Draft:** 19.58 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:**
  - Lat: 42.420517
  - Long: -70.598651
  - Aft Draft: 18.85 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- **Placement End:**
  - Lat: 42.421155
  - Long: -70.597795
  - Aft Draft: 7.03 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

### Material Information:
- **Material Source:** Unknown
- **Material Description:** Unknown

### Wave Information:
- **Wave Information Recorded:** 6/13/2008 6:04:00 PM (Local)
- **Wave Height:** Not Avail.
- **Dominant Wave Period:** Not Avail.
- **NOAA Station:** Not Avail.

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 62 Scow: GL65

Initial Draft: 19.58

Initial Disposal Speed: 6.3

Placement Information:
Placement Start:
Latitude: 42.420517
Longitude: -70.598651
Aft Draft: 18.85 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Latitude: 42.421155
Longitude: -70.597795
Aft Draft: 7.03 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Trip Information:
Trip #: 62
Tug Name: Lemmerhirt
Captain(s): Unknown
Scow Name: GL65
Type: Split Hull Scow
Bin Volume: 5700 cu yd
Init Aft Draft: 19.58 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 061608_110839
**Trip Information:**
- Trip #: 63
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5500 cu yd
- Start Time: 6/14/2008 07:35:10
- Init Aft Draft: 21.03 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

**Placement Information:**
- Placement Start: 6/14/2008 12:14:21
- Lat: 42.421642
- Long: -70.597100
- Aft Draft: 21.03 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

- Placement End: 6/14/2008 12:15:20
- Lat: 42.422656
- Long: -70.595731
- Aft Draft: 9.44 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

**Material Source:** Unknown
**Material Description:** Unknown

**Wave Information Recorded:** 6/14/2008 7:40:00 AM (Local)
- Wave Height: Not Avail.
- Dominant Wave Period: Not Avail.
- NOAA Station: Not Avail.

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 63 Scow: GL63

Initial Draft: 21.03 ft
Initial Disposal Speed: 5.2

14 Sat Jun 2008

Trip Information
Trip #: 63
Tug Name: Lemmerhirt
Captain(s): Unknown
Scow Name: GL63
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5500 cu yd
Start Time: 6/14/2008 07:35:10
Init Aft Draft: 21.03 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A
Material Source: Unknown
Material Description: Unknown

Placement Information:
Placement Start:
Time: 6/14/2008 12:14:21
Latitude: 42.421642
Longitude: -70.597100
Aft Draft: 21.03 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Time: 6/14/2008 12:15:20
Latitude: 42.422656
Longitude: -70.595731
Aft Draft: 9.44 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 061608_110800
2008 Boston Harbor Maintenance Dredging  
W912WJ-07-C-0023

### Trip Information:
- **Trip #:** 64
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5500 cu yd
- **Start Time:** 6/14/2008 19:25:06
- **Init Aft Draft:** 18.62 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:**
  - **Time:** 6/15/2008 00:14:17
  - **Lat:** 42.422329
  - **Long:** -70.596051
  - **Aft Draft:** 17.74 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 6/15/2008 00:14:46
  - **Lat:** 42.422985
  - **Long:** -70.595213
  - **Aft Draft:** 5.78 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Material Information:
- **Material Source:** Unknown
- **Material Description:** Unknown

### Wave Information:
- **Wave Information Recorded:** 6/14/2008 7:54:00 PM (Local)
- **Wave Height:** Not Avail.
- **Dominant Wave Period:** Not Avail.
- **NOAA Station:** Not Avail.

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=101899,101904,101909,1...
Trip Information:
- Trip #: 64
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5500 cu yd
- Start Time: 6/14/2008 19:25:06
- Init Aft Draft: 18.62 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 6/15/2008 00:14:17
  - Latitude: 42.422329
  - Longitude: -70.596051
  - Aft Draft: 17.74 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- Placement End:
  - Time: 6/15/2008 00:14:46
  - Latitude: 42.422985
  - Longitude: -70.595213
  - Aft Draft: 5.78 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 061608_111532
### Trip Information:

- **Trip #:** 65  
- **Tug:** Lemmerhirt  
- **Captain(s):** Unknown  
- **Scow:** GL63  
- **Type:** Split Hull Scow  
- **Technique:** Bottom Dump  
- **Bin Volume:** 5700 cu yd  
- **Start Time:** 6/15/2008 11:12:33

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<tr>
<td>20.95 ft</td>
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<td>20.95 ft</td>
<td>N/A</td>
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### Placement Information:

- **Placement Start:** 6/15/2008 15:32:51  
- **Placement End:** 6/15/2008 15:33:24

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- **Material Source:** Unknown  
- **Material Description:** Unknown  
- **Wave Information Recorded:** 6/15/2008 11:00:00 AM (Local)  
- **Wave Height:** Not Avail.  
- **Dominant Wave Period:** Not Avail.  
- **NOAA Station:** Not Avail.

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
2008 Boston Harbor Maintenance Dredging  
W912WJ-07-C-0023

Draft / Speed for Trip: 65 Scow: GL63

Initial Draft 20.95
Initial Disposal Speed 5.8

Trip Information

- Trip #: 65
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5700 cu yd
- Start Time: 6/15/2008 11:12:33

Placement Information:

- Placement Start:
  - Latitude: 42.423086
  - Longitude: -70.595052
- Placement End:
  - Latitude: 42.423665
  - Longitude: -70.594219

- Init Aft Draft: 20.95 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:

Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 061608_110726
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<td>Fore Bin: N/A</td>
<td>Fore Bin: N/A</td>
</tr>
</tbody>
</table>

**Material Source:** Unknown  
**Material Description:** Unknown  

**Wave Information Recorded:** 6/16/2008 12:50:00 AM (Local)  
**Wave Height:** Not Avail.  
**Dominant Wave Period:** Not Avail.  
**NOAA Station:** Not Avail.  

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 66 Scow: GL65

Initial Draft 18.62
Initial Disposal Speed 7.1

16 Mon Jun 2008

Trip Information
Trip #: 66
Tug Name: Lemmerhirt
Captain(s): Unknown
Scow Name: GL65
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5600 cu yd
Start Time: 6/16/2008 01:12:36
Init Aft Draft: 18.62 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Placement Information:
Placement Start:
Latitude: 42.423603
Longitude: -70.594182
Aft Draft: 17.37 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Time: 6/16/2008 04:40:26
Latitude: 42.424379
Longitude: -70.593108
Aft Draft: 4.67 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

Version: 061608_110647

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

**Trip Information:**
- Trip #: 67
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5000 cu yd
- Start Time: 6/16/2008 14:44:55
- Init Aft Draft: 20.63 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

**Placement Information:**
- Placement Start:
  - Lat: 42.424536
  - Long: -70.593085
  - Aft Draft: 19.44 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Lat: 42.426200
  - Long: -70.590858
  - Aft Draft: 7.54 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

**Material Source:** Unknown
**Material Description:** Unknown

**Wave Information Recorded:**
- 6/16/2008 2:29:00 PM (Local)
- Wave Height: 1.6 ft
- Dominant Wave Period: 3.0 sec
- NOAA Station: 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

Trip Information

Trip #: 67
Tug Name: Lemmerhirt
Captain(s): Unknown
Scow Name: GL63
Type: Split Hull Scow
Bin Volume: 5000 cu yd
Start Time: 6/16/2008 14:44:55
Init Aft Draft: 20.63 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Placement Information:

Placement Start:
Latitude: 42.424536
Longitude: -70.593085
Aft Draft: 19.44 ft
Aft Bin: N/A

Placement End:
Latitude: 42.426200
Longitude: -70.590858
Forward Draft: N/A
Aft Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:

Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 061708_145648
# 2008 Boston Harbor Maintenance Dredging

**W912WJ-07-C-0023**

## Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>68</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL65</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5175 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>6/17/2008 08:00:28</td>
</tr>
</tbody>
</table>

## Placement Information:

<table>
<thead>
<tr>
<th>Placement Start:</th>
<th>Placement End:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>Time</td>
</tr>
<tr>
<td>11:30:16</td>
<td>11:31:09</td>
</tr>
</tbody>
</table>

### Placement Coordinates:

- **Aft Draft:**
  - Start: 19.29 ft
  - End: 4.16 ft
- **Fore Draft:**
  - Start: N/A
  - End: N/A
- **Aft Bin:**
  - Start: N/A
  - End: N/A
- **Fore Bin:**
  - Start: N/A
  - End: N/A

## Material Source:

- Unknown

## Material Description:

- Unknown

## Wave Information Recorded:

- Date: 6/17/2008 7:34:00 AM (Local)
- Wave Height: Not Avail.
- Dominant Wave Period: Not Avail.
- NOAA Station: Not Avail.

## Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 68 Scow: GL65

17 Tue Jun 2008

Initial Draft: 19.29
Initial Disposal Speed: 8.3

Legend:
- Transit
- Placement
- Return Transit

Trip Information:
- Trip #: 68
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5175 cu yd
- Start Time: 6/17/2008 08:00:28
- Init Aft Draft: 19.29 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 6/17/2008 11:30:16
  - Latitude: 42.424935
  - Longitude: -70.592248
- Placement End:
  - Latitude: 42.426364
  - Longitude: -70.590189
- Aft Draft: 17.89 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 061808_151029

Trip Information:

- **Trip #:** 69
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5600 cu yd
- **Start Time:** 6/17/2008 20:02:28
- **Init Aft Draft:** 21.03 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

Placement Information:

- **Placement Start:**
  - Lat: 42.429630
  - Long: -70.581642
- **Aft Draft:** 21.03 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Placement End:**
  - Lat: 42.429350
  - Long: -70.577671
- **Aft Draft:** 9.76 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

Material Source: Unknown  
Material Description: Unknown

Wave Information Recorded: 6/17/2008 7:52:00 PM (Local)

Wave Height: Not Avail.  Dominant Wave Period: Not Avail.  NOAA Station: Not Avail.

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Trip Information:
- Trip #: 69
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Bin Volume: 5600 cu yd
- Start Time: 6/17/2008 20:02:28
- Init Aft Draft: 21.03 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Latitude: 42.429630
  - Longitude: -70.581642
- Placement End:
  - Latitude: 42.429350
  - Longitude: -70.577671
- Aft Draft: 21.03 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 061808_151909
### Trip Information:
- **Trip #:** 70
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5550 cu yd
- **Start Time:** 6/18/2008 07:37:04
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:**
  - **Time:** 6/18/2008 11:02:58
  - **Lat:** 42.429190
  - **Long:** -70.582056
- **Aft Draft:** 19.07 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 6/18/2008 11:03:25
  - **Lat:** 42.429416
  - **Long:** -70.580884
- **Aft Draft:** 4.75 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 70 Scow: GL65

Initial Draft 20.32
Initial Disposal Speed 6.9

Placement

Time

Placement Start:
Time: 6/18/2008 11:02:58
Latitude: 42.429190
Longitude: -70.582056

Aft Draft: 19.07 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Time: 6/18/2008 11:03:25
Latitude: 42.429416
Longitude: -70.580884

Aft Draft: 4.75 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Trip Information:

Trip #: 70
Tug Name: Lemmerhirt
Captain(s): Unknown
Scow Name: GL65
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5550 cu yd
Start Time: 6/18/2008 07:37:04
Init Aft Draft: 20.32 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:

Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 061808_153102
<table>
<thead>
<tr>
<th>Trip Information:</th>
<th>Placement Information:</th>
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<tbody>
<tr>
<td>Trip #:</td>
<td>Placement Start:</td>
</tr>
<tr>
<td>73</td>
<td>Time:</td>
</tr>
<tr>
<td>Tug:</td>
<td>6/20/2008</td>
</tr>
<tr>
<td>Lemmerhirt</td>
<td>02:21:25</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Placement End:</td>
</tr>
<tr>
<td>Unknown</td>
<td>Time:</td>
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<td>Scow:</td>
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</tr>
<tr>
<td>GL63</td>
<td>02:22:12</td>
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<tr>
<td>Type:</td>
<td>Lat:</td>
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<tr>
<td>Split Hull Scow</td>
<td>42.414746</td>
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<tr>
<td>Technique:</td>
<td>Long:</td>
</tr>
<tr>
<td>Bottom Dump</td>
<td>-70.601896</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>Init Aft Draft:</td>
</tr>
<tr>
<td>5600 cu yd</td>
<td>21.03 ft</td>
</tr>
<tr>
<td>Start Time:</td>
<td>Init Fore Draft:</td>
</tr>
<tr>
<td>6/19/2008 22:49:24</td>
<td>N/A</td>
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<tr>
<td>Init Aft Bin:</td>
<td>Init Fore Bin:</td>
</tr>
<tr>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin:</td>
<td>Aft Draft:</td>
</tr>
<tr>
<td>N/A</td>
<td>20.95 ft</td>
</tr>
<tr>
<td>Aft Bin:</td>
<td>Aft Draft:</td>
</tr>
<tr>
<td>N/A</td>
<td>8.73 ft</td>
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<tr>
<td>Fore Bin:</td>
<td>Fore Draft:</td>
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<tr>
<td>Material Source:</td>
<td>Wave Information Recorded:</td>
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<tr>
<td>Material Description:</td>
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<tr>
<td>Unknown</td>
<td>1.6 ft</td>
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<tr>
<td>Wave Information Recorded:</td>
<td>Dominant Wave Period:</td>
</tr>
<tr>
<td></td>
<td>5.0 sec</td>
</tr>
<tr>
<td>Wave Height:</td>
<td>NOAA Station:</td>
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<tr>
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<td>44013</td>
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Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 73 Scow: GL63

Initial Draft: 21.03
Initial Disposal Speed: 7.4

Trip Information:
- Trip #: 73
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd
- Init Aft Draft: 21.03 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 6/20/2008 02:21:25
  - Latitude: 42.414746
  - Longitude: -70.601896
- Placement End:
  - Time: 6/20/2008 02:22:12
  - Latitude: 42.415848
  - Longitude: -70.600197
- Aft Draft: 20.95 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com

Version: 062008_111433
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>74</th>
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<tbody>
<tr>
<td>Tug:</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow:</td>
<td>GL65</td>
</tr>
<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>5575 cu yd</td>
</tr>
<tr>
<td>Start Time:</td>
<td>6/20/2008 10:01:53</td>
</tr>
</tbody>
</table>

Placement Information:

| Init Aft Draft: | 18.92 ft |
| Init Fore Draft: | N/A |
| Init Aft Bin: | N/A |
| Init Fore Bin: | N/A |

| Aft Draft: | 4.75 ft |
| Fore Draft: | N/A |
| Aft Bin: | N/A |
| Fore Bin: | N/A |

Material Source: Unknown
Material Description: Unknown
Wave Information Recorded: 6/20/2008 9:38:00 AM (Local)
Wave Height: 1.0 ft Dominant Wave Period: 8.0 sec NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 74 Scow: GL65

20 Fri Jun 2008

Trip Information:
- Trip #: 74
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5575 cu yd
- Start Time: 6/20/2008 10:01:53
- Init Aft Draft: 19.88 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Placement Information:
- Placement Start:
  - Latitude: 42.416063
  - Longitude: -70.599631
- Placement End:
  - Latitude: 42.417072
  - Longitude: -70.598115

Aft Draft: 19.82 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 062308_161054
### Trip Information:

<table>
<thead>
<tr>
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<th>75</th>
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<td>Lemmerhirt</td>
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<tr>
<td>Captain(s)</td>
<td>Unknown</td>
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<tr>
<td>Scow</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5550 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>6/21/2008 02:01:31</td>
</tr>
</tbody>
</table>

| Init Aft Draft | 21.03 ft |
| Init Fore Draft | N/A |
| Init Aft Bin | N/A |
| Init Fore Bin | N/A |

### Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
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<tbody>
<tr>
<td>Lat: 42.416153</td>
<td>Lat: 42.417401</td>
</tr>
<tr>
<td>Long: -70.599803</td>
<td>Long: -70.598109</td>
</tr>
</tbody>
</table>

| Aft Draft | 20.95 ft |
| Fore Draft | N/A |
| Aft Bin | N/A |
| Fore Bin | N/A |

| Material Source | Unknown |
| Material Description | Unknown |

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.
2008 Boston Harbor Maintenance Dredging  
W912WJ-07-C-0023

Draft / Speed for Trip: 75 Scow: GL63

Initial Draft 21.03
Initial Disposal Speed 7.5

Placement Information:
- Placement Start Time: 6/21/2008 05:28:43
  - Latitude: 42.416153
  - Longitude: -70.599803
  - Aft Draft: 20.95 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End Time: 6/21/2008 05:29:34
  - Latitude: 42.417401
  - Longitude: -70.598109
  - Aft Draft: 9.76 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Data Information:
- Type: ADISS Play Data.
- Notes:
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 062308_161029
### Trip Information:

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Trip #</td>
<td>76</td>
</tr>
<tr>
<td>Tug</td>
<td>Lemmerhirt</td>
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<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL65</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5575 cu yd</td>
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<tr>
<td>Start Time</td>
<td>6/21/2008 12:49:45</td>
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<tr>
<td>Init Aft Draft</td>
<td>19.58 ft</td>
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<tr>
<td>Init Fore Draft</td>
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<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
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</table>

### Placement Information:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Lat</td>
<td>42.416844</td>
</tr>
<tr>
<td>Long</td>
<td>-70.598370</td>
</tr>
<tr>
<td>Aft Draft</td>
<td>18.92 ft</td>
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<tr>
<td>Fore Draft</td>
<td>N/A</td>
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<tr>
<td>Aft Bin</td>
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<td>Aft Draft</td>
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<td>Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Fore Bin</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Material Source:
- Unknown

### Material Description:
- Unknown

### Wave Information Recorded:
- 6/21/2008 12:07:00 PM (Local)
- Wave Height: 1.3 ft
- Dominant Wave Period: 5.0 sec
- NOAA Station: 44013

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 062308_161721
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 76 Scow: GL65

Initial Draft 19.58
Initial Disposal Speed 7.4

Placement Information:
Latitude: 42.416844
Longitude: -70.598370
Aft Draft: 18.92 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End: 6/21/2008 16:54:31
Latitude: 42.418128
Longitude: -70.596333
Aft Draft: 7.77 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Trip Information:
Trip #: 76
Tug Name: Lemmerhirt
Captain(s): Unknown
Scow Name: GL65
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5575 cu yd
Init Aft Draft: 19.58 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 062308_161721
### Trip Information:
- **Trip #:** 77
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5600 cu yd
- **Start Time:** 6/22/2008 08:09:03
- **Init Aft Draft:** 21.03 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A
- **Material Source:** Unknown
- **Material Description:** Unknown
- **Wave Information Recorded:** 6/22/2008 7:46:00 AM (Local)
- **Wave Height:** 1.3 ft
- **Dominant Wave Period:** 7.0 sec
- **NOAA Station:** 44013

### Placement Information:
- **Placement Start:**
  - **Time:** 6/22/2008 11:29:48
  - **Lat:** 42.417789
  - **Long:** -70.597070
  - **Aft Draft:** 21.03 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 6/22/2008 11:33:23
  - **Lat:** 42.423189
  - **Long:** -70.591005
  - **Aft Draft:** 9.44 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 062308_162322
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 77
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd
- Start Time: 6/22/2008 08:09:03
- Init Aft Draft: 21.03 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Latitude: 42.417789
  - Longitude: -70.597070
  - Aft Draft: 21.03 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Latitude: 42.423189
  - Longitude: -70.591005
  - Aft Draft: 9.44 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.

Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 062308_162322
## Trip Information:
- **Trip #:** 78
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5700 cu yd
- **Start Time:** 6/22/2008 21:12:44
  - **Init Aft Draft:** 18.70 ft
  - **Init Fore Draft:** N/A
  - **Init Aft Bin:** N/A
  - **Init Fore Bin:** N/A

## Placement Information:
- **Placement Start:**
  - **Time:** 6/23/2008 00:37:44
  - **Lat:** 42.418505
  - **Long:** -70.596072
  - **Aft Draft:** 17.07 ft
  - **Aft Bin:** N/A

- **Placement End:**
  - **Time:** 6/23/2008 00:38:35
  - **Lat:** 42.419743
  - **Long:** -70.594256
  - **Aft Draft:** 4.89 ft
  - **Aft Bin:** N/A

## Material Information:
- **Material Source:** Unknown
- **Material Description:** Unknown
- **Wave Information Recorded:** 6/22/2008 8:44:00 PM (Local)
- **Wave Height:** 2.0 ft
- **Dominant Wave Period:** 4.0 sec
- **NOAA Station:** 44013

## Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 062408_114959
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information
- Trip #: 78
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5700 cu yd
- Start Time: 6/22/2008 21:12:44
- Init Aft Draft: 18.70 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A
- Material Source: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

Placement Information:
- Placement Start:
  - Time: 6/23/2008 00:37:44
  - Latitude: 42.418505
  - Longitude: -70.596072
- Placement End:
  - Time: 6/23/2008 00:38:35
  - Latitude: 42.419743
  - Longitude: -70.594256
- Aft Draft: 17.07 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com

Version: 062408_114959
## Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>79</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5750 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>6/23/2008 10:54:02</td>
</tr>
</tbody>
</table>

Init Aft Draft: 21.03 ft  
Init Fore Draft: N/A  
Init Aft Bin: N/A  
Init Fore Bin: N/A

## Placement Information:

### Placement Start:
- Lat: 42.419588
- Long: -70.595249
- Aft Draft: 21.03 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

### Placement End:
- Lat: 42.421930
- Long: -70.591416
- Aft Draft: 10.79 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown  
Material Description: Unknown

Wave Information Recorded: 6/23/2008 10:39:00 AM (Local)
Wave Height: Not Avail.  
Dominant Wave Period: Not Avail.  
NOAA Station: Not Avail.

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

Version: 062408_120500
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 79 Scow: GL63

Initial Draft 21.03
Initial Disposal Speed 7.3

Trip Information
- Trip #: 79
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5750 cu yd
- Start Time: 6/23/2008 10:54:02
- Init Aft Draft: 21.03 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A
- Material Source: Unknown

Placement Information:
- Latitude: 42.419588
- Longitude: -70.595249
- Aft Draft: 21.03 ft
- Aft Bin: N/A
- Latitude: 42.421930
- Longitude: -70.591416
- Forward Draft: N/A
- Fore Bin: N/A

Data Information:
- Type: ADISSPlay Data.
- Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com

Version: 062408_120500
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 80
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5700 cu yd
- Init Aft Draft: 19.58 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
  Lat: 42.419952
  Long: -70.594270
  Aft Draft: 17.96 ft
  Fore Draft: N/A
  Aft Bin: N/A
  Fore Bin: N/A
- Placement End: Time: 6/24/2008 03:24:06
  Lat: 42.420706
  Long: -70.593283
  Aft Draft: 5.71 ft
  Fore Draft: N/A
  Aft Bin: N/A
  Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 6/23/2008 11:17:00 PM (Local)
- Wave Height: 0.0 ft
- Dominant Wave Period: 0.0 sec
- NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 062408_115529
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 80 Scow: GL65

Init Aft Draft: 19.58 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Placement Information:
Latitude: 42.419952
Longitude: -70.594270
Aft Draft: 17.96 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Latitude: 42.420706
Longitude: -70.593283
Aft Draft: 5.71 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com

Version: 062408_115529
**Trip Information:**

<table>
<thead>
<tr>
<th>Trip #</th>
<th>81</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5000 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>6/24/2008 11:45:26</td>
</tr>
</tbody>
</table>

| init Aft Draft | 21.11 ft |
| init Fore Draft | N/A |
| init Aft Bin | N/A |
| init Fore Bin | N/A |

| Placement Information: |
|-------------------------|-----------------|
| Placement Start: | Placement End: |
| 16:24:05 | 16:25:10 |

<table>
<thead>
<tr>
<th>Lat: 42.420909</th>
<th>Lat: 42.422578</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long: -70.592830</td>
<td>Long: -70.590274</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Placement Start:</th>
<th>Placement End:</th>
</tr>
</thead>
<tbody>
<tr>
<td>16:24:05</td>
<td>16:25:10</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Aft Draft: 21.03 ft</th>
<th>Aft Draft: 10.71 ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fore Draft: N/A</td>
<td>Fore Draft: N/A</td>
</tr>
<tr>
<td>Aft Bin: N/A</td>
<td>Aft Bin: N/A</td>
</tr>
<tr>
<td>Fore Bin: N/A</td>
<td>Fore Bin: N/A</td>
</tr>
</tbody>
</table>

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 6/24/2008 1:20:00 PM (Local)  
**Wave Height:** 1.6 ft  
**Dominant Wave Period:** 7.0 sec  
**NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 81 Scow: GL63

Trip Information:
- Trip #: 81
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Bin Volume: 5000 cu yd
- Start Time: 6/24/2008 11:45:26
- Init Aft Draft: 21.11 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 6/24/2008 16:24:05
  - Latitude: 42.420909
  - Longitude: -70.592830
- Placement End:
  - Time: 6/24/2008 16:25:10
  - Latitude: 42.422578
  - Longitude: -70.590274
- Aft Draft: 10.71 ft
- Forward Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 062508_114706
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
Trip #: 82
Tug: Lemmerhirt
Captain(s): Unknown
Scow: GL65
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5500 cu yd
Start Time: 6/25/2008 02:58:07
Init Aft Draft: 19.73 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Placement Information:
Lat: 42.421531
Long: -70.591774
Aft Draft: 18.62 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A
Lat: 42.422690
Long: -70.589913
Aft Draft: 6.08 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown
Wave Information Recorded: 6/25/2008 3:10:00 AM (Local)
Wave Height: 2.0 ft
Dominant Wave Period: 3.0 sec
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 82 Scow: GL65

Initial Draft: 19.73 ft
Initial Disposal Speed: 7.6 knots

Placement Information:
- Placement Start:
  - Latitude: 42.421531
  - Longitude: -70.591774
- Placement End:
  - Latitude: 42.422690
  - Longitude: -70.589913

Data Information:
Type: ADISS Play Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

Trip Information:
- Trip #: 82
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5500 cu yd
- Start Time: 6/25/2008 02:58:07
- Init Aft Draft: 19.73 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Latitude: 42.421531
  - Longitude: -70.591774
- Placement End:
  - Latitude: 42.422690
  - Longitude: -70.589913
- Aft Draft: 18.62 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com  Version: 062508_114239
### Trip Information:
- **Trip #:** 83
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5700 cu yd
- **Start Time:** 6/25/2008 14:25:33
- **Init Aft Draft:** 21.19 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:**
  - **Time:** 6/25/2008 18:11:53
  - **Lat:** 42.422240
  - **Long:** -70.590469
  - **Aft Draft:** 21.11 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 6/25/2008 18:13:20
  - **Lat:** 42.424417
  - **Long:** -70.587367
  - **Aft Draft:** 12.54 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Wave Information Recorded:
- **Date:** 6/25/2008 2:16:00 PM (Local)
- **Wave Height:** 1.0 ft
- **Dominant Wave Period:** 9.0 sec
- **NOAA Station:** 44013

**Material Source:** Unknown  
**Material Description:** Unknown

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 83 Scow: GL63

Trip Information:
- Trip #: 83
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5700 cu yd
- Init Aft Draft: 21.19 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A
- Material Source: Unknown
- Material Description: Unknown

Placement Information:
- Placement Start:
  - Latitude: 42.422240
  - Longitude: -70.590469
- Placement End:
  - Latitude: 42.424417
  - Longitude: -70.587367
- Aft Draft: 12.54 ft
- Forward Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 062608_150525
Trip Information:

- **Trip #:** 84
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5400 cu yd
- **Start Time:** 6/26/2008 03:44:24

Placement Information:

- **Placement Start:**
  - **Time:** 6/26/2008 14:50:24
  - **Lat:** 42.414482
  - **Long:** -70.602067
  - **Aft Draft:** 18.03 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 6/26/2008 14:51:27
  - **Lat:** 42.415930
  - **Long:** -70.599837
  - **Aft Draft:** 4.16 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Material Source:** Unknown
- **Material Description:** Unknown
- **Wave Information Recorded:** 6/26/2008 11:15:00 AM (Local)
  - **Wave Height:** 0.0 ft
  - **Dominant Wave Period:** 0.0 sec
  - **NOAA Station:** 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
2008 Boston Harbor Maintenance Dredging  
W912WJ-07-C-0023

Draft / Speed for Trip: 84 Scow: GL65

26 Thu Jun 2008

Initial Draft 19.44
Initial Disposal Speed 7.4

Material Source: Unknown
Material Description: Unknown

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 062708_114658

Trip Information

<table>
<thead>
<tr>
<th>Trip #</th>
<th>84</th>
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</thead>
<tbody>
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<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
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<td>Scow Name</td>
<td>GL65</td>
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<td>Type</td>
<td>Split Hull Scow</td>
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<tr>
<td>Technique</td>
<td>Bottom Dump</td>
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<tr>
<td>Bin Volume</td>
<td>5400 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>6/26/2008 03:44:24</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>19.44 ft</td>
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<tr>
<td>Init Fore Draft</td>
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<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
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Placement Information

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latitude: 42.414482</td>
<td>Latitude: 42.415930</td>
</tr>
<tr>
<td>Longitude: -70.602067</td>
<td>Longitude: -70.599837</td>
</tr>
<tr>
<td>Aft Draft: 18.03 ft</td>
<td>Aft Draft: 4.16 ft</td>
</tr>
<tr>
<td>Fore Draft: N/A</td>
<td>Forward Draft: N/A</td>
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<tr>
<td>Aft Bin: N/A</td>
<td>Aft Bin: N/A</td>
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<tr>
<td>Fore Bin: N/A</td>
<td>Fore Bin: N/A</td>
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Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.
**Trip Information:**

- **Trip #:** 85
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5600 cu yd
- **Start Time:** 6/26/2008 18:59:33
- **Init Aft Draft:** 21.03 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**

- **Placement Start:**
  - **Time:** 6/26/2008 22:08:17
  - **Lat:** 42.415279
  - **Long:** -70.600647
  - **Aft Draft:** 21.03 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 6/26/2008 22:09:10
  - **Lat:** 42.416456
  - **Long:** -70.598977
  - **Aft Draft:** 10.87 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 6/26/2008 6:50:00 PM (Local)

- **Wave Height:** Not Avail.
- **Dominant Wave Period:** Not Avail.
- **NOAA Station:** Not Avail.

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
### Trip Information:
- **Trip #:** 86
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5600 cu yd
- **Start Time:** 6/27/2008 04:52:42
- **Init Aft Draft:** 18.92 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:**
  - **Time:** 6/27/2008 07:57:54
  - **Lat:** 42.415842
  - **Long:** -70.599135
  - **Aft Draft:** 17.52 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 6/27/2008 07:58:33
  - **Lat:** 42.416853
  - **Long:** -70.597652
  - **Aft Draft:** 4.38 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 6/27/2008 4:41:00 AM (Local)  
**Wave Height:** Not Avail.  
**Dominant Wave Period:** Not Avail.  
**NOAA Station:** Not Avail.
Trip Information:
- Trip #: 86
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd
- Init Aft Draft: 18.92 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A
- Material Source: Unknown
- Material Description: Unknown

Placement Information:
- Placement Start:
  - Latitude: 42.415842
  - Longitude: -70.599135
- Placement End:
  - Latitude: 42.416853
  - Longitude: -70.597652
- Aft Draft: 17.52 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Data Information:
- Type: ADISSPlay Data.
- Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 062708_121424
### Trip Information:

<table>
<thead>
<tr>
<th>Trip #:</th>
<th>87</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug:</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow:</td>
<td>GL63</td>
</tr>
<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>5770 cu yd</td>
</tr>
<tr>
<td>Start Time:</td>
<td>7/7/2008 18:26:43</td>
</tr>
<tr>
<td>Init Aft Draft:</td>
<td>18.61 ft</td>
</tr>
<tr>
<td>Init Fore Draft:</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Aft Bin:</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin:</td>
<td>N/A</td>
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### Placement Information:

<table>
<thead>
<tr>
<th>Placement Start:</th>
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</thead>
<tbody>
<tr>
<td>Time:</td>
<td>Time:</td>
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<tr>
<td>Lat:</td>
<td>Lat:</td>
</tr>
<tr>
<td>42.417235</td>
<td>42.418631</td>
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<tr>
<td>Long:</td>
<td>Long:</td>
</tr>
<tr>
<td>-70.597744</td>
<td>-70.595436</td>
</tr>
<tr>
<td>Aft Draft:</td>
<td>Aft Draft:</td>
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<tr>
<td>18.61 ft</td>
<td>8.61 ft</td>
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<td>N/A</td>
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<td>Fore Bin:</td>
<td>Fore Bin:</td>
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Material Source: Unknown  
Material Description: Unknown  
Wave Information Recorded: 7/7/2008 6:26:00 PM (Local)  
Wave Height: 1.0 ft  
Dominant Wave Period: 11.0 sec  
NOAA Station: 44013

---

**Notes:**

SAIC Point of Contact: Marc Wakeman  
Phone: (401)847-4210  
E-mail: info@adiss-afiss.com  
Version: 070808_110419
Draft / Speed for Trip: 87 Scow: GL63

<table>
<thead>
<tr>
<th>Trip Information</th>
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<tbody>
<tr>
<td>Trip #: 87</td>
<td>Placement Start:</td>
</tr>
<tr>
<td>Tug Name: Lemmerhirt</td>
<td>Time: 7/7/2008</td>
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<tr>
<td>Captain(s): Unknown</td>
<td>21:22:24</td>
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<tr>
<td>Scow Name: GL63</td>
<td>Latitude: 42.417235</td>
</tr>
<tr>
<td>Type: Split Hull Scow</td>
<td>Longitude: -70.597744</td>
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<tr>
<td>Technique: Bottom Dump</td>
<td>Aft Draft: 18.61 ft</td>
</tr>
<tr>
<td>Bin Volume: 5770 cu yd</td>
<td>Forward Draft: N/A</td>
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<tr>
<td>Start Time: 7/7/2008 18:26:43</td>
<td>Aft Bin: N/A</td>
</tr>
<tr>
<td>Init Aft Draft: 18.61 ft</td>
<td>Fore Bin: N/A</td>
</tr>
<tr>
<td>Init Fore Draft: N/A</td>
<td></td>
</tr>
<tr>
<td>Init Aft Bin: N/A</td>
<td></td>
</tr>
<tr>
<td>Init Fore Bin: N/A</td>
<td></td>
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<tr>
<td>Material Source: Unknown</td>
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<tr>
<td>Material Description: Unknown</td>
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Data Information:
Type: ADISSPlay Data.
Notes:

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 070808_110419

### Trip Information:

- **Trip #:** 88
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5860 cu yd
- **Start Time:** 7/8/2008 05:08:07
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A
- **Wave Information Recorded:** 7/8/2008 5:01:00 AM (Local)
- **Wave Height:** 1.3 ft
- **Dominant Wave Period:** 17.0 sec
- **NOAA Station:** 44013

### Placement Information:

- **Placement Start:**
  - **Time:** 7/8/2008 08:08:07
  - **Lat:** 42.417899
  - **Long:** -70.597743
  - **Aft Draft:** N/A
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 7/8/2008 08:08:42
  - **Lat:** 42.419401
  - **Long:** -70.595751
  - **Aft Draft:** 4.89 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Notes:
- SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 070808_114058
Trip Information:
- Trip #: 88
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5860 cu yd
- Start Time: 7/8/2008 05:08:07
- Init Aft Draft: 20.32 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A
- Material Source: Unknown
- Material Description: Unknown

Placement Information:
- Placement Start:
  - Time: 7/8/2008 08:07:49
  - Latitude: 42.417899
  - Longitude: -70.597743
  - Aft Draft: 19.81 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 7/8/2008 08:08:42
  - Latitude: 42.419401
  - Longitude: -70.595751
  - Aft Draft: 4.89 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 070808_114058
### Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>89</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
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<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5580 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>7/8/2008 11:52:44</td>
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### Placement Information:

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<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>Time</td>
</tr>
</tbody>
</table>

- **Init Aft Draft**: 18.69 ft
- **Init Aft Bin**: N/A
- **Init Fore Bin**: N/A
- **Aft Draft**: 18.69 ft
- **Aft Bin**: N/A
- **Fore Bin**: N/A
- **Lat**: 42.418678
- **Long**: -70.595696
- **Lat**: 42.419786
- **Long**: -70.593474

### Notes:

- SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 070908_142317
Trip Information

- Trip #: 89
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5580 cu yd
- Init Aft Draft: 18.69 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:

  Latitude: 42.418678
  Longitude: -70.595696
  Aft Draft: 18.69 ft
  Fore Draft: N/A
  Aft Bin: N/A
  Fore Bin: N/A

  Latitude: 42.419786
  Longitude: -70.593474
  Aft Draft: 9.17 ft
  Fore Draft: N/A
  Aft Bin: N/A
  Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:

Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 070908_142317
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:

<table>
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<tr>
<th>Trip #</th>
<th>Tug</th>
<th>Captain(s)</th>
<th>Scow</th>
<th>Type</th>
<th>Technique</th>
<th>Bin Volume</th>
<th>Start Time</th>
<th>Init Aft Draft</th>
<th>Init Fore Draft</th>
<th>Init Aft Bin</th>
<th>Init Fore Bin</th>
<th>Placement Start Time</th>
<th>Placement End Time</th>
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Placement Information:

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<th>Placement Start</th>
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<tbody>
<tr>
<td>21:35:12</td>
<td>21:36:05</td>
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<tr>
<td>Lat: 42.414534</td>
<td>Lat: 42.415736</td>
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<tr>
<td>Long: -70.601744</td>
<td>Long: -70.599171</td>
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</table>

Material Source: Unknown  Material Description: Unknown

Wave Information Recorded: 7/8/2008 6:31:00 PM (Local)
Wave Height: 2.0 ft Dominant Wave Period: 4.0 sec NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 070908_142148
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information

Trip #: 90
Tug Name: Lemmerhirt
Captain(s): Unknown
Scow Name: GL65
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5590 cu yd
Start Time: 7/8/2008 18:32:30
Init Aft Draft: 19.95 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Placement Information:

Placement Start:
Time: 7/8/2008 21:35:12
Latitude: 42.414534
Longitude: -70.601744
Aft Draft: 18.77 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Time: 7/8/2008 21:36:05
Latitude: 42.415736
Longitude: -70.599171
Aft Draft: 4.53 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 070908_142148
### Trip Information:

<table>
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<th>Trip #</th>
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</tr>
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<tbody>
<tr>
<td>Tug</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5870 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>7/9/2008 00:48:14</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>18.53 ft</td>
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<td>Init Fore Draft</td>
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<td>Init Aft Bin</td>
<td>N/A</td>
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<tr>
<td>Init Fore Bin</td>
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### Placement Information:

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<tbody>
<tr>
<td>Lat: 42.415398</td>
<td>Lat: 42.416964</td>
</tr>
<tr>
<td>Long: -70.600418</td>
<td>Long: -70.598488</td>
</tr>
<tr>
<td>Aft Draft</td>
<td>18.53 ft</td>
</tr>
<tr>
<td>Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Fore Bin</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com
2008 Boston Harbor Maintenance Dredging  
W912WJ-07-C-0023  

**Trip Information:**

- **Trip #:** 91  
- **Tug Name:** Lemmerhirt  
- **Captain(s):** Unknown  
- **Scow Name:** GL63  
- **Type:** Split Hull Scow  
- **Technique:** Bottom Dump  
- **Bin Volume:** 5870 cu yd  
- **Start Time:** 7/9/2008 00:48:14  
- **Init Aft Draft:** 18.53 ft  
- **Init Fore Draft:** N/A  
- **Init Aft Bin:** N/A  
- **Init Fore Bin:** N/A  

**Material Source:** Unknown  
**Material Description:** Unknown

**Placement Information:**

- **Placement Start:**  
  - **Time:** 7/9/2008 04:00:16  
  - **Latitude:** 42.415398  
  - **Longitude:** -70.600418  
  - **Aft Draft:** 18.53 ft  
  - **Fore Draft:** N/A  
  - **Aft Bin:** N/A  
  - **Fore Bin:** N/A

- **Placement End:**  
  - **Time:** 7/9/2008 04:01:15  
  - **Latitude:** 42.416964  
  - **Longitude:** -70.598488  
  - **Aft Draft:** 8.37 ft  
  - **Fore Draft:** N/A  
  - **Aft Bin:** N/A  
  - **Fore Bin:** N/A

**Data Information:**

- **Type:** ADISSPlay Data.  
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 070908_142814

---

**Graph:**

- **Initial Draft:** 18.53 ft  
- **Initial Disposal Speed:** 7.4 knots

- **Placement:**  
  - **Time:** 7/9/2008 04:00:16  
  - **Latitude:** 42.415398  
  - **Longitude:** -70.600418

- **Return Transit:**

---

**Table:**

<table>
<thead>
<tr>
<th>Trip Information</th>
<th>Placement Information</th>
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<tbody>
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</tr>
<tr>
<td><strong>Tug Name:</strong></td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td><strong>Captain(s):</strong></td>
<td>Unknown</td>
</tr>
<tr>
<td><strong>Scow Name:</strong></td>
<td>GL63</td>
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<tr>
<td><strong>Type:</strong></td>
<td>Split Hull Scow</td>
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<td><strong>Technique:</strong></td>
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<td><strong>Bin Volume:</strong></td>
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<td><strong>Start Time:</strong></td>
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<th><strong>Placement Start:</strong></th>
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<tbody>
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<tr>
<td><strong>Longitude:</strong> -70.600418</td>
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</tr>
<tr>
<td><strong>Aft Draft:</strong> 18.53 ft</td>
<td><strong>Aft Draft:</strong> 8.37 ft</td>
</tr>
<tr>
<td><strong>Fore Draft:</strong> N/A</td>
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<tr>
<td><strong>Aft Bin:</strong> N/A</td>
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</tr>
<tr>
<td><strong>Fore Bin:</strong> N/A</td>
<td><strong>Fore Bin:</strong> N/A</td>
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</table>
### Trip Information:
- **Trip #:** 92  
- **Tug:** Lemmerhirt  
- **Captain(s):** Unknown  
- **Scow:** GL65  
- **Type:** Split Hull Scow  
- **Technique:** Bottom Dump  
- **Bin Volume:** 4600 cu yd  
- **Start Time:** 7/9/2008 07:55:30
- **Init Aft Draft:** 17.89 ft  
- **Init Fore Draft:** N/A  
- **Init Aft Bin:** N/A  
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:** 7/9/2008 10:47:18  
  - **Lat:** 42.416073  
  - **Long:** -70.599678  
- **Aft Draft:** 16.85 ft  
- **Aft Bin:** N/A  
- **Fore Draft:** N/A  
- **Fore Bin:** N/A
- **Placement End:** 7/9/2008 10:47:51  
  - **Lat:** 42.416940  
  - **Long:** -70.598337  
- **Aft Draft:** 6.30 ft  
- **Aft Bin:** N/A  
- **Fore Draft:** N/A  
- **Fore Bin:** N/A

### Material Information:
- **Material Source:** Unknown  
- **Material Description:** Unknown

### Wave Information:
- **Wave Height:** 1.3 ft  
- **Dominant Wave Period:** 14.0 sec  
- **NOAA Station:** 44013

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 070908_143256

---

[Image of map and chart with coordinates and indicators]
Trip Information:
- **Trip #:** 92
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 4600 cu yd
- **Start Time:** 7/9/2008 07:55:30
- **Init Aft Draft:** 17.89 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

Placement Information:
- **Placement Start Time:** 7/9/2008 10:47:18
  - **Latitude:** 42.416073
  - **Longitude:** -70.599678
  - **Aft Draft:** 16.85 ft
  - **Forward Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End Time:** 7/9/2008 10:47:51
  - **Latitude:** 42.416940
  - **Longitude:** -70.598337
  - **Aft Draft:** 6.30 ft
  - **Forward Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

**Material Source:** Unknown
**Material Description:** Unknown

**Data Information:**
- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 070908_143256

---

2008 Boston Harbor Maintenance Dredging  
W912WJ-07-C-0023
**2008 Boston Harbor Maintenance Dredging**

**W912WJ-07-C-0023**

### Trip Information:
- **Trip #:** 102
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 7/14/2008 08:14:52

### Placement Information:
- **Start Time:** 7/14/2008 11:17:51
  - **Lat:** 42.416901
  - **Long:** -70.598708
  - **Aft Draft:** 20.03 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **End Time:** 7/14/2008 11:18:33
  - **Lat:** 42.418110
  - **Long:** -70.597185
  - **Aft Draft:** 5.63 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Material Source:
- Unknown

### Material Description:
- Unknown

### Wave Information Recorded:
- 7/14/2008 8:13:00 AM (Local)
- **Wave Height:** 2.6 ft
- **Dominant Wave Period:** 11.0 sec
- **NOAA Station:** 44013

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 071508_100351

---

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=102639,102653,102654,102665...  
7/16/2008
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 102 Scow: GL65

Initial Draft 20.40
Initial Disposal Speed 8.2

Trip Information
- Trip #: 102
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Start Time: 7/14/2008 08:14:52
- Init Aft Draft: 20.40 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 7/14/2008 11:17:51
  - Latitude: 42.416901
  - Longitude: -70.598708
  - Aft Draft: 20.03 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 7/14/2008 11:18:33
  - Latitude: 42.418110
  - Longitude: -70.597185
  - Aft Draft: 5.63 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.
**Trip Information:**

<table>
<thead>
<tr>
<th>Trip #:</th>
<th>103</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug:</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow:</td>
<td>GL63</td>
</tr>
<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>5600 cu yd</td>
</tr>
<tr>
<td>Start Time:</td>
<td>7/14/2008 15:00:58</td>
</tr>
</tbody>
</table>

**Init Aft Draft:** 18.61 ft  
**Init Fore Draft:** N/A  
**Init Aft Bin:** N/A  
**Init Fore Bin:** N/A

**Placement Information:**

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lat: 42.417735</td>
<td>Lat: 42.418315</td>
</tr>
<tr>
<td>Long: -70.597233</td>
<td>Long: -70.596409</td>
</tr>
</tbody>
</table>

**Aft Draft:** 18.61 ft  
**Fore Draft:** N/A  
**Aft Bin:** N/A  
**Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 7/14/2008 2:43:00 PM (Local)  
**Wave Height:** 2.0 ft  
**Dominant Wave Period:** 11.0 sec  
**NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 071508_155918
Trip Information:

- **Trip #**: 103
- **Tug Name**: Lemmerhirt
- **Captain(s)**: Unknown
- **Scow Name**: GL63
- **Type**: Split Hull Scow
- **Technique**: Bottom Dump
- **Bin Volume**: 5600 cu yd
- **Start Time**: 7/14/2008 15:00:58
- **Init Aft Draft**: 18.61 ft
- **Init Fore Draft**: N/A
- **Init Aft Bin**: N/A
- **Init Fore Bin**: N/A

Placement Information:

- **Placement Start**:
  - Time: 7/14/2008 18:13:10
  - Latitude: 42.417735
  - Longitude: -70.597233
  - Aft Draft: 18.61 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- **Placement End**:
  - Time: 7/14/2008 18:13:34
  - Latitude: 42.418315
  - Longitude: -70.596409
  - Aft Draft: 9.88 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

**Material Source**: Unknown
**Material Description**: Unknown

- **Type**: ADISSPlay Data.
- **Notes**: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact**: Marc Wakeman  **Phone**: (401)847-4210  **E-mail**: info@adiss-afiss.com  
**Version**: 071508_155918
Trip Information:
- Trip #: 104
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd
- Start Time: 7/15/2008 01:05:37
- Init Aft Draft: 20.32 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start: 7/15/2008 04:07:39
- Lat: 42.418468
- Long: -70.596415
- Aft Draft: 20.17 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A
- Placement End: 7/15/2008 04:08:14
- Lat: 42.419336
- Long: -70.594995
- Aft Draft: 5.12 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown
Wave Information Recorded: 7/15/2008 1:04:00 AM (Local)
Wave Height: 2.0 ft
Dominant Wave Period: 10.0 sec
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 071508_101111

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=102639,102653,102654,102665...
**Trip Information**

- **Trip #**: 104
- **Tug Name**: Lemmerhirt
- **Captain(s)**: Unknown
- **Scow Name**: GL65
- **Type**: Split Hull Scow
- **Technique**: Bottom Dump
- **Bin Volume**: 5600 cu yd
- **Start Time**: 7/15/2008 01:05:37
- **Init Aft Draft**: 20.32 ft
- **Init Fore Draft**: N/A
- **Init Aft Bin**: N/A
- **Init Fore Bin**: N/A
- **Material Source**: Unknown
- **Material Description**: Unknown

**Placement Information**

- **Placement Start**:
  - **Time**: 7/15/2008 04:07:39
  - **Latitude**: 42.418468
  - **Longitude**: -70.596415
  - **Aft Draft**: 20.17 ft
  - **Fore Draft**: N/A
  - **Aft Bin**: N/A
  - **Fore Bin**: N/A
- **Placement End**:
  - **Time**: 7/15/2008 04:08:14
  - **Latitude**: 42.419336
  - **Longitude**: -70.594995
  - **Aft Draft**: 5.12 ft
  - **Forward Draft**: N/A
  - **Aft Bin**: N/A
  - **Fore Bin**: N/A

**Data Information**

- **Type**: ADISSPlay Data.
- **Notes**: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact**: Marc Wakeman  
**Phone**: (401)847-4210  
**E-mail**: info@adiss-afiss.com  
**Version**: 071508_101111
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>105</th>
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</thead>
<tbody>
<tr>
<td>Tug</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
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<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5600 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>7/15/2008 07:28:18</td>
</tr>
</tbody>
</table>

Placement Information:

<table>
<thead>
<tr>
<th>Init Aft Draft</th>
<th>18.53 ft</th>
<th>Init Fore Draft</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
<td>Init Fore Bin</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Placement Start:

- Time: 7/15/2008 10:36:21
- Lat: 42.418722
- Long: -70.594432
- Aft Draft: 18.53 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Placement End:

- Time: 7/15/2008 10:36:50
- Lat: 42.418864
- Long: -70.592976
- Aft Draft: 8.05 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 7/15/2008 10:41:00 AM (Local)
Wave Height: 2.6 ft Dominant Wave Period: 11.0 sec NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 071508_160713

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=102639,102653,102654,102665... 7/16/2008
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

**Draft / Speed for Trip: 105 Scow: GL63**

<table>
<thead>
<tr>
<th>Start Time</th>
<th>7/15/2008 07:28:18</th>
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<tbody>
<tr>
<td>Init Aft Draft</td>
<td>18.53 ft</td>
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<tr>
<td>Init Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Placement Information:**
- **Placement Start:**
  - Time: 7/15/2008 10:36:21
  - Latitude: 42.418722
  - Longitude: -70.594432
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- **Placement End:**
  - Time: 7/15/2008 10:36:50
  - Latitude: 42.418864
  - Longitude: -70.592976
  - Aft Draft: 8.05 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

**Material Source:** Unknown
**Material Description:** Unknown

**Data Information:**
- Type: ADISSPlay Data.
- Notes:
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 071508_160713
### Trip Information:
- **Trip #:** 106
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5650 cu yd
- **Start Time:** 7/15/2008 15:25:41
- **Init Aft Draft:** 19.36 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:**
  - **Time:** 7/15/2008 18:28:49
  - **Lat:** 42.419048
  - **Lon:** -70.592568
  - **Aft Draft:** 17.15 ft
  - **Aft Bin:** N/A
  - **Fore Draft:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 7/15/2008 18:29:00
  - **Lat:** 42.419118
  - **Lon:** -70.591985
  - **Aft Draft:** 6.15 ft
  - **Aft Bin:** N/A
  - **Fore Draft:** N/A
  - **Fore Bin:** N/A

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 071608_114729
Draft / Speed for Trip: 106 Scow: GL65

Initial Draft 19.36
Initial Disposal Speed 8.2

Placement Information:
- Placement Start: 7/15/2008 18:28:49
  - Latitude: 42.419048
  - Longitude: -70.592568
- Placement End: 7/15/2008 18:29:00
  - Latitude: 42.419118
  - Longitude: -70.591985

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 071608_114729
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:

<table>
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<tr>
<th>Trip #</th>
<th>107</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug:</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow:</td>
<td>GL63</td>
</tr>
<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>5600 cu yd</td>
</tr>
<tr>
<td>Start Time:</td>
<td>7/15/2008 22:33:49</td>
</tr>
</tbody>
</table>

Material Source: Unknown  Material Description: Unknown

Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time:</td>
<td>Time:</td>
</tr>
<tr>
<td>7/16/2008 01:31:15</td>
<td>7/16/2008 01:32:00</td>
</tr>
</tbody>
</table>

Init Aft Draft: 18.61 ft  Aft Draft: 18.53 ft  Aft Draft: 9.48 ft
Init Fore Draft: N/A  Fore Draft: N/A  Fore Draft: N/A
Init Aft Bin: N/A  Aft Bin: N/A  Aft Bin: N/A
Init Fore Bin: N/A  Fore Bin: N/A  Fore Bin: N/A

Material Source: Unknown  Material Description: Unknown

Wave Information Recorded: 7/15/2008 10:33:49 PM (Local)
Wave Height: 2.3 ft  Dominant Wave Period: 11.0 sec  NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 071708_102600

Draft / Speed for Trip: 107 Scow: GL63

Placement Information:
- **Placement Start:**
  - Time: 7/16/2008 01:31:15
  - Latitude: 42.419139
  - Longitude: -70.591564
- **Placement End:**
  - Time: 7/16/2008 01:32:00
  - Latitude: 42.419393
  - Longitude: -70.589163

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 071708_102600

### Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>108</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug:</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow:</td>
<td>GL65</td>
</tr>
<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
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<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
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<tr>
<td>Bin Volume:</td>
<td>5600 cu yd</td>
</tr>
<tr>
<td>Start Time:</td>
<td>7/16/2008 05:03:57</td>
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<tr>
<th>Initial</th>
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<th>Placement End</th>
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</thead>
<tbody>
<tr>
<td>Aft Draft</td>
<td>20.25 ft</td>
<td>18.77 ft</td>
</tr>
<tr>
<td>Fore Draft</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>Aft Bin</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Fore Bin</td>
<td>N/A</td>
<td>N/A</td>
</tr>
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</table>

**Material Source:** Unknown  **Material Description:** Unknown

**Wave Information Recorded:** 7/16/2008 5:03:57 AM (Local)

- Wave Height: 2.3 ft
- Dominant Wave Period: 13.0 sec
- NOAA Station: 44013

---

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com

**Version:** 071708_102804
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 108 Scow: GL65

Initial Draft: 20.25
Initial Disposal Speed: 7.0

Trip Information
- Trip #: 108
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd
- Start Time: 7/16/2008 05:03:57
- Init Aft Draft: 20.25 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 7/16/2008 08:07:38
  - Latitude: 42.418606
  - Longitude: -70.594579
  - Aft Draft: 18.77 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- Placement End:
  - Time: 7/16/2008 08:08:08
  - Latitude: 42.418846
  - Longitude: -70.593128
  - Aft Draft: 5.93 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 071708_102804
### Trip Information:

- **Trip #:** 110
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 4975 cu yd
- **Start Time:** 7/17/2008 04:36:48
- **Init Aft Draft:** 15.67 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:

- **Time:** 7/17/2008 07:24:38
- **Aft Draft:** 14.27 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Time:** 7/17/2008 07:25:17
- **Aft Draft:** 4.16 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Material Source:** Unknown
- **Material Description:** Unknown

Wave Information Recorded: 7/17/2008 4:36:48 AM (Local)
Wave Height: 2.3 ft Dominant Wave Period: 10.0 sec
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 110 Scow: GL65

**Trip Information:**
- **Trip #:** 110
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 4975 cu yd
- **Start Time:** 7/17/2008 04:36:48
- **Init Aft Draft:** 15.67 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Material Source:** Unknown

**Material Description:** Unknown

**Placement Information:**
- **Placement Start:**
  - Time: 7/17/2008 07:24:38
  - Latitude: 42.418984
  - Longitude: -70.592837
  - Aft Draft: 14.27 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- **Placement End:**
  - Time: 7/17/2008 07:25:17
  - Latitude: 42.419162
  - Longitude: -70.590765
  - Aft Draft: 4.16 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

**Data Information:**
- **Type:** ADISSPlay Data.
- **Notes:**
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com

**Version:** 072108_111725
2008 Boston Harbor Maintenance Dredging  
W912WJ-07-C-0023

**Trip Information:**

<table>
<thead>
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<th>Trip #:</th>
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<tbody>
<tr>
<td>Tug:</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow:</td>
<td>GL63</td>
</tr>
<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>5700 cu yd</td>
</tr>
<tr>
<td>Start Time:</td>
<td>7/17/2008 18:00:57</td>
</tr>
<tr>
<td>Init Aft Draft:</td>
<td>18.61 ft</td>
</tr>
<tr>
<td>Init Aft Bin:</td>
<td>N/A</td>
</tr>
<tr>
<td>Material Source:</td>
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<tr>
<td>Material Description:</td>
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<td>Wave Information Recorded:</td>
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<tr>
<td>Wave Height:</td>
<td>3.6 ft</td>
</tr>
<tr>
<td>Dominant Wave Period:</td>
<td>9.0 sec</td>
</tr>
<tr>
<td>NOAA Station:</td>
<td>44013</td>
</tr>
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**Placement Information:**

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<tr>
<th>Placement Start:</th>
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<tbody>
<tr>
<td>Time:</td>
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</tr>
<tr>
<td>Lat:</td>
<td>Lat:</td>
</tr>
<tr>
<td>42.419263</td>
<td>42.419432</td>
</tr>
<tr>
<td>Long:</td>
<td>Long:</td>
</tr>
<tr>
<td>-70.591322</td>
<td>-70.589517</td>
</tr>
<tr>
<td>Aft Draft:</td>
<td>18.53 ft</td>
</tr>
<tr>
<td>Aft Bin:</td>
<td>N/A</td>
</tr>
<tr>
<td>Fore Draft:</td>
<td>N/A</td>
</tr>
<tr>
<td>Fore Bin:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target. The hull status sensor indicates that the GL63 returned from the disposal area while OPEN. The hull status sensor returned to CLOSED after the scow returned to the dredge area.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 072108_112003

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=102719,102781,102782,102795,...  
7/22/2008
Draft / Speed for Trip: 111 Scow: GL63

17 Thu Jul 2008

Trip Information:
- Trip #: 111
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5700 cu yd
- Start Time: 7/17/2008 18:00:57
- Init Aft Draft: 18.61 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Latitude: 42.419263
  - Longitude: -70.591322
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Latitude: 42.419432
  - Longitude: -70.589517
  - Aft Draft: 9.25 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target. The hull status sensor indicates that the GL63 returned from the disposal area while OPEN. The hull status sensor returned to CLOSED after the scow returned to the dredge area.

SAIC Point of Contact: Marc Wakeman Phone: (401)847-4210 E-mail: info@adiss-afiss.com
Version: 072108_112003
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:

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<th>Trip #</th>
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<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow:</td>
<td>GL65</td>
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<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
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<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>5675 cu yd</td>
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<tr>
<td>Start Time:</td>
<td>7/18/2008 07:26:14</td>
</tr>
<tr>
<td>Init Aft Draft:</td>
<td>20.10 ft</td>
</tr>
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<td>Init Fore Draft:</td>
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</tr>
<tr>
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<td>Init Fore Bin:</td>
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<tr>
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<tr>
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<tr>
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<td>Long: -70.594670</td>
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<td>Aft Draft: 18.99 ft</td>
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<tr>
<td>Aft Bin: N/A</td>
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</tr>
<tr>
<td>Fore Bin: N/A</td>
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<td>Long: -70.593656</td>
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<tr>
<td>Fore Bin: N/A</td>
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</table>

Material Source: Unknown Material Description: Unknown
Wave Information Recorded: 7/18/2008 7:26:14 AM (Local)
Wave Height: 3.3 ft Dominant Wave Period: 11.0 sec NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman Phone: (401)847-4210 E-mail: info@adiss-afiss.com
Version: 072108_112213

### Trip Information

<table>
<thead>
<tr>
<th>Trip #</th>
<th>112</th>
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<tbody>
<tr>
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<td>Lemmerhirt</td>
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<tr>
<td>Captain(s)</td>
<td>Unknown</td>
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<tr>
<td>Scow Name</td>
<td>GL65</td>
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<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5675 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>7/18/2008 07:26:14</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>20.10 ft</td>
</tr>
<tr>
<td>Init Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
<td>N/A</td>
</tr>
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</table>

### Placement Information

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latitude: 42.418747</td>
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</tr>
<tr>
<td>Longitude: -70.594670</td>
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</tr>
</tbody>
</table>

- Aft Draft: 18.99 ft
- Forward Draft: N/A
- Aft Bin: N/A
- Forward Bin: N/A

Material Source: Unknown  
Material Description: Unknown

### Data Information

- Type: ADISSPlay Data.
- Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

### SAIC Point of Contact

Marc Wakeman  
Phone: (401)847-4210  
E-mail: info@adiss-afiss.com

Version: 072108_112213

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=102719,102781,102782,102795,...  
7/22/2008
### Trip Information:
- **Trip #:** 113
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 7/18/2008 18:58:32
- **Init Aft Draft:** 18.61 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start: Time:** 7/18/2008 22:40:14
  - Lat: 42.419068
  - Long: -70.593051
- **Placement End: Time:** 7/18/2008 22:40:53
  - Lat: 42.419184
  - Long: -70.591589
- **Aft Draft:** 18.53 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

### Material Information:
- **Material Source:** Unknown
- **Material Description:** Unknown

### Wave Information Recorded:
- **Wave Height:** 2.6 ft
- **Dominant Wave Period:** 9.0 sec
- **NOAA Station:** 44013

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Trip Information:

- **Trip #:** 113
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 7/18/2008 18:58:32
- **Init Aft Draft:** 18.61 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

Placement Information:

- **Placement Start:**
  - **Time:** 7/18/2008 22:40:14
  - **Latitude:** 42.419068
  - **Longitude:** -70.593051
  - **Aft Draft:** 18.53 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 7/18/2008 22:40:53
  - **Latitude:** 42.419184
  - **Longitude:** -70.591589
  - **Aft Draft:** 9.32 ft
  - **Forward Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

**Material Source:** Unknown
**Material Description:** Unknown

Data Information:

- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com

Version: 072108_112448

### Trip Information:

- **Trip #:** 114
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 7/19/2008 01:58:21
- **Init Aft Draft:** 19.66 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time: 7/19/2008</td>
<td>Time: 7/19/2008</td>
</tr>
<tr>
<td>Lat: 42.419250</td>
<td>Lat: 42.419371</td>
</tr>
<tr>
<td>Long: -70.591824</td>
<td>Long: -70.590375</td>
</tr>
</tbody>
</table>
- **Aft Draft:** 18.55 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Material Source:** Unknown
- **Material Description:** Unknown
- **Wave Information Recorded:** 7/19/2008 2:02:00 AM (Local)
- **Wave Height:** 2.6 ft
- **Dominant Wave Period:** 9.0 sec
- **NOAA Station:** 44013

### Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 072108_112819
### 2008 Boston Harbor Maintenance Dredging

**W912WJ-07-C-0023**

#### Trip Information

- **Trip #:** 114
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 7/19/2008 01:58:21
- **Init Aft Draft:** 19.66 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

#### Placement Information

- **Placement Start:**
  - **Time:** 7/19/2008 05:36:25
  - **Latitude:** 42.419250
  - **Longitude:** -70.591824
  - **Aft Draft:** 18.55 ft
  - **Fores Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 7/19/2008 05:36:52
  - **Latitude:** 42.419371
  - **Longitude:** -70.590375
  - **Aft Draft:** 5.34 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Material Information

- **Source:** Unknown
- **Description:** Unknown

### Data Information

- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

#### SAIC Point of Contact

- **Marc Wakeman**
- **Phone:** (401)847-4210
- **E-mail:** info@adiss-afiss.com

---

### 2008 Boston Harbor Maintenance Dredging

**W912WJ-07-C-0023**

#### Trip Information:

- **Trip #:** 115
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5600 cu yd
- **Start Time:** 7/19/2008 11:38:28

#### Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time: 15:25:26</td>
<td>Time: 15:32:00</td>
</tr>
</tbody>
</table>

- **Aft Draft:** 18.61 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

#### Placement Start:

- **Lat:** 42.418323
- **Long:** -70.595237

#### Placement End:

- **Lat:** 42.426455
- **Long:** -70.584567

- **Wave Information Recorded:** 7/19/2008 11:15:00 AM (Local)
  - **Wave Height:** 2.0 ft
  - **Dominant Wave Period:** 9.0 sec
  - **NOAA Station:** 44013

### Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target. The hull status sensor indicates that the GL63 was OPEN during the return transit of load #115. The sensor returned to the CLOSED position prior to returning to the dredge site.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 072108_120221
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 115
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd
- Start Time: 7/19/2008 11:38:28
- Init Aft Draft: 18.61 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A
- Material Source: Unknown
- Material Description: Unknown

Placement Information:
- Placement Start:
  - Time: 7/19/2008 15:25:26
  - Latitude: 42.418323
  - Longitude: -70.595237
  - Aft Draft: 18.69 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 7/19/2008 15:32:00
  - Latitude: 42.426455
  - Longitude: -70.584567
  - Aft Draft: 9.56 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target. The hull status sensor indicates that the GL63 was OPEN during the return transit of load #115. The sensor returned to the CLOSED position prior to returning to the dredge site.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 072108_120221
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 116
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5700 cu yd
- Start Time: 7/19/2008 19:09:43
- Init Aft Draft: 20.47 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start: 7/19/2008 22:29:31
- Lat: 42.418439
- Long: -70.594046
- Aft Draft: 20.40 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A
- Placement End: 7/19/2008 22:29:58
- Lat: 42.418553
- Long: -70.592695
- Aft Draft: 4.97 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown
Wave Information Recorded: 7/19/2008 6:45:00 PM (Local)
Wave Height: 1.6 ft Dominant Wave Period: 8.0 sec NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 072108_120725

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=102719,102781,102782,102795,...
Draft / Speed for Trip: 116 Scow: GL65

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<td>Placement Start:</td>
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<td>Time:</td>
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<td>Latitude:</td>
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<tr>
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<td>Aft Draft:</td>
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<td>GL65</td>
<td>20.40 ft</td>
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<td>Type:</td>
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<td>Init Fore Bin:</td>
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| Data Information:
| Type: ADISSPlay Data. |
| Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target. |

SAIC Point of Contact: Marc Wakeman  
Phone: (401)847-4210  
E-mail: info@adiss-afiss.com 
Version: 072108_120725
**2008 Boston Harbor Maintenance Dredging**
**W912WJ-07-C-0023**

**Trip Information:**
- **Trip #:** 117
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 7/20/2008 03:39:16
- **Init Aft Draft:** 18.53 ft
- **Init Aft Bin:** N/A

**Placement Information:**
- **Placement Start:**
  - **Time:** 7/20/2008 06:55:55
  - **Lat:** 42.418616
  - **Long:** -70.592097
- **Aft Draft:** 18.53 ft
- **Aft Bin:** N/A

- **Placement End:**
  - **Time:** 7/20/2008 06:56:18
  - **Lat:** 42.418689
  - **Long:** -70.590899
- **Aft Draft:** 9.09 ft
- **Aft Bin:** N/A

**Material Source:** Unknown
**Material Description:** Unknown

**Wave Information Recorded:**
- **Wave Height:** 1.3 ft
- **Dominant Wave Period:** 9.0 sec
- **NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 072108_121057
Trip Information:
- Trip #: 117
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Start Time: 7/20/2008 03:39:16
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 7/20/2008 06:55:55
  - Latitude: 42.418616
  - Longitude: -70.592097
- Aft Draft: 18.53 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A
- Placement End:
  - Time: 7/20/2008 06:56:18
  - Latitude: 42.418689
  - Longitude: -70.590899
- Aft Draft: 9.09 ft
- Forward Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 072108_121057

### Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>118</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL65</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>6050 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>7/20/2008 11:07:49</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>20.40 ft</td>
</tr>
<tr>
<td>Init Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lat: 42.418365</td>
<td>Lat: 42.418586</td>
</tr>
<tr>
<td>Long: -70.595359</td>
<td>Long: -70.593409</td>
</tr>
<tr>
<td>Aft Draft</td>
<td>20.17 ft</td>
</tr>
<tr>
<td>Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Fore Bin</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 7/20/2008 5:01:00 PM (Local)  
**Wave Height:** 1.3 ft  
**Dominant Wave Period:** 11.0 sec

**NOAA Station:** 44013

---

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 072108_121811

---

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=102719,102781,102782,102795,...  
7/22/2008
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 118 Scow: GL65

Initial Draft 20.40
Initial Disposal Speed 7.4

Placement Information:
Placement Start:
Time: 7/20/2008 14:53:12
Latitude: 42.418365
Longitude: -70.595359
Aft Draft: 20.17 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Time: 7/20/2008 14:53:53
Latitude: 42.418586
Longitude: -70.593409
Aft Draft: 4.89 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Trip Information:
Trip #: 118
Tug Name: Lemmerhirt
Captain(s): Unknown
Scow Name: GL65
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 6050 cu yd
Start Time: 7/20/2008 11:07:49
Init Aft Draft: 20.40 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 072108_121811

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 119
- Tug: Cygnus
- Captain(s): Unknown
- Scow: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5700 cu yd
- Start Time: 7/20/2008 22:11:09
- Initial Aft Draft: 18.53 ft
- Initial Fore Draft: N/A
- Initial Aft Bin: N/A
- Initial Fore Bin: N/A

Placement Information:
- Placement Start: 7/21/2008 02:41:01
  - Lat: 42.418437
  - Long: -70.593673
  - Aft Draft: 18.45 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End: 7/21/2008 02:41:40
  - Lat: 42.418513
  - Long: -70.591893
  - Aft Draft: 9.72 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown
Wave Information Recorded: 7/20/2008 9:40:00 PM (Local)
- Wave Height: 2.0 ft
- Dominant Wave Period: 10.0 sec
- NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 119 Scow: GL63

Trip Information
- Trip #: 119
- Tug Name: Cygnus
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5700 cu yd
- Start Time: 7/20/2008 22:11:09
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 7/21/2008 02:41:01
  - Latitude: 42.418437
  - Longitude: -70.593673
  - Aft Draft: 18.45 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 7/21/2008 02:41:40
  - Latitude: 42.418513
  - Longitude: -70.591893
  - Aft Draft: 9.72 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman Phone: (401)847-4210 E-mail: info@adiss-afiss.com
Version: 072208_133306

<table>
<thead>
<tr>
<th>Trip Information:</th>
<th>Placement Information:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trip #:</strong> 120</td>
<td><strong>Placement Start:</strong></td>
</tr>
<tr>
<td><strong>Tug:</strong> Cygnus</td>
<td><strong>Time:</strong> 7/21/2008</td>
</tr>
<tr>
<td><strong>Captain(s):</strong> Unknown</td>
<td><strong>Aft Draft:</strong> 20.40 ft</td>
</tr>
<tr>
<td><strong>Scow:</strong> GL65</td>
<td><strong>Long:</strong> 7/21/2008</td>
</tr>
<tr>
<td><strong>Type:</strong> Split Hull Scow</td>
<td><strong>Aft Draft:</strong> 20.40 ft</td>
</tr>
<tr>
<td><strong>Technique:</strong> Bottom Dump</td>
<td><strong>Fore Draft:</strong> N/A</td>
</tr>
<tr>
<td><strong>Bin Volume:</strong> 5800 cu yd</td>
<td><strong>Fore Draft:</strong> N/A</td>
</tr>
<tr>
<td><strong>Start Time:</strong> 7/21/2008</td>
<td><strong>Start Time:</strong> 10:43:20</td>
</tr>
<tr>
<td><strong>Init Aft Draft:</strong> 20.40 ft</td>
<td><strong>End Time:</strong> 7/21/2008</td>
</tr>
<tr>
<td><strong>Init Fore Draft:</strong> N/A</td>
<td><strong>End Time:</strong> 15:55:30</td>
</tr>
<tr>
<td><strong>Init Aft Bin:</strong> N/A</td>
<td><strong>Lat:</strong> 42.418560</td>
</tr>
<tr>
<td><strong>Init Fore Bin:</strong> N/A</td>
<td><strong>Long:</strong> -70.592401</td>
</tr>
<tr>
<td><strong>Aft Draft:</strong> 20.40 ft</td>
<td><strong>Lat:</strong> 42.418624</td>
</tr>
<tr>
<td><strong>Fore Draft:</strong> N/A</td>
<td><strong>Long:</strong> -70.591217</td>
</tr>
</tbody>
</table>

**Material Source:** Unknown  **Material Description:** Unknown

**Wave Information Recorded:** 7/21/2008 10:34:00 AM (Local)

**Wave Height:** 2.0 ft  **Dominant Wave Period:** 9.0 sec  **NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com

**Version:** 072208_134452
### Draft / Speed for Trip: 120 Scow: GL65

<table>
<thead>
<tr>
<th>Time</th>
<th>Speed (Knots)</th>
<th>Draft (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12PM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3PM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6PM</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Initial Draft:** 20.40 ft

**Initial Disposal Speed:**

**Placement Information:**
- **Placement Start:**
  - Time: 7/21/2008 15:55:30
  - Latitude: 42.418560
  - Longitude: -70.592401
  - Aft Draft: 20.40 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- **Placement End:**
  - Latitude: 42.418624
  - Longitude: -70.591217
  - Aft Draft: 5.93 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

**Trip Information:**
- Trip #: 120
- Tug Name: Cygnus
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Init Aft Draft: 20.40 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

**Material Source:** Unknown

**Material Description:** Unknown

**Notes:**
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman
**Phone:** (401)847-4210
**E-mail:** info@adiss-afiss.com

**Version:** 072208_134452

---

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=102841,102866,102867,102868...
## Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>121</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug:</td>
<td>Cygnus</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow:</td>
<td>GL63</td>
</tr>
<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>5800 cu yd</td>
</tr>
<tr>
<td>Start Time:</td>
<td>7/21/2008 00:09:39</td>
</tr>
<tr>
<td>Init Aft Draft:</td>
<td>18.53 ft</td>
</tr>
<tr>
<td>Init Fore Draft:</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Aft Bin:</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

## Placement Information:

<table>
<thead>
<tr>
<th>Placement Start:</th>
<th>Placement End:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time: 7/22/2008 00:40:49</td>
<td>Time: 7/22/2008 00:41:38</td>
</tr>
<tr>
<td>Lat: 42.418387</td>
<td>Lat: 42.418530</td>
</tr>
<tr>
<td>Long: -70.595166</td>
<td>Long: -70.593117</td>
</tr>
<tr>
<td>Aft Draft: 18.53 ft</td>
<td>Aft Draft: 9.01 ft</td>
</tr>
<tr>
<td>Fore Draft: N/A</td>
<td>Fore Draft: N/A</td>
</tr>
<tr>
<td>Aft Bin: N/A</td>
<td>Aft Bin: N/A</td>
</tr>
<tr>
<td>Fore Bin: N/A</td>
<td>Fore Bin: N/A</td>
</tr>
</tbody>
</table>

Material Source: Unknown  
Material Description: Unknown

Wave Information Recorded: 7/21/2008 7:36:00 PM (Local)  
Wave Height: 1.6 ft  
Dominant Wave Period: 11.0 sec  
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information

Trip #: 121
Tug Name: Cygnus
Captain(s): Unknown
Scow Name: GL63
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5800 cu yd
Start Time: 7/21/2008 20:09:39
Init Aft Draft: 18.53 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Placement Information:

Placement Start:
Time: 7/22/2008 00:40:49
Latitude: 42.418387
Longitude: -70.595166
Aft Draft: 18.53 ft
Forward Draft: N/A
Aft Bin: N/A
Forecast Bin: N/A

Placement End:
Time: 7/22/2008 00:41:38
Latitude: 42.418550
Longitude: -70.593117
Aft Draft: 9.01 ft
Forward Draft: N/A
Aft Bin: N/A
Forecast Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:

Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com

Version: 072208_140045
**2008 Boston Harbor Maintenance Dredging**

**W912WJ-07-C-0023**

**Trip Information:**
- **Trip #:** 122
- **Tug:** Cygnus
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5700 cu yd
- **Start Time:** 7/22/2008 05:13:46
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**
- **Placement Start:**
  - **Time:** 7/22/2008 09:04:41
  - **Lat:** 42.418607
  - **Long:** -70.593809
  - **Aft Draft:** 20.32 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 7/22/2008 09:05:04
  - **Lat:** 42.418609
  - **Long:** -70.592846
  - **Aft Draft:** 4.89 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 7/22/2008 5:27:00 AM (Local)  
**Wave Height:** 1.6 ft  
**Dominant Wave Period:** 10.0 sec  
**NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 072208_135329
Draft / Speed for Trip: 122 Scow: GL65

<table>
<thead>
<tr>
<th>Trip Information</th>
<th>Placement Information:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trip #:</td>
<td>Placement Start:</td>
</tr>
<tr>
<td>Tug Name:</td>
<td>Time:</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>7/22/2008</td>
</tr>
<tr>
<td>Scow Name:</td>
<td>09:04:41</td>
</tr>
<tr>
<td>Type:</td>
<td>Latitude:</td>
</tr>
<tr>
<td>Technique:</td>
<td>42.418607</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>Longitude:</td>
</tr>
<tr>
<td>Start Time:</td>
<td>-70.593809</td>
</tr>
<tr>
<td>Init Aft Draft:</td>
<td>Aft Draft:</td>
</tr>
<tr>
<td>Init Fore Draft:</td>
<td>20.32 ft</td>
</tr>
<tr>
<td>Init Aft Bin:</td>
<td>Forward Draft:</td>
</tr>
<tr>
<td>Init Fore Bin:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Material Source: Unknown  Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 072208_135329
Trip Information:
- Trip #: 123
- Tug: Cygnus
- Captain(s): Unknown
- Scow: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 7/22/2008 15:49:08
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
  - Lat: 42.418671
  - Long: -70.591982
  - Lat: 42.418610
  - Long: -70.590328
- Aft Draft: 8.93 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 7/22/2008 3:49:00 PM (Local)
Wave Height: 3.0 ft
Dominant Wave Period: 6.0 sec
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 072308_103746
Draft / Speed for Trip: 123 Scow: GL63

Initial Draft: 18.53

Placement Information:
- Placement Start: 7/22/2008 19:53:18
  - Latitude: 42.418671
  - Longitude: -70.591982
  - Latitude: 42.418610
  - Longitude: -70.590328

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com

Version: 072308_103746
### Trip Information:
- **Trip #:** 124
- **Tug:** Cygnus
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5600 cu yd
- **Start Time:** 7/22/2008 23:43:57
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:**
  - **Time:** 7/23/2008 03:35:41
  - **Lat:** 42.417577
  - **Long:** -70.596410
  - **Aft Draft:** 19.51 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 7/23/2008 03:36:22
  - **Lat:** 42.417635
  - **Long:** -70.594568
  - **Aft Draft:** 5.19 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Material Information:
- **Material Source:** Unknown
- **Material Description:** Unknown

### Wave Information:
- **Wave Height:** 3.0 ft
- **Dominant Wave Period:** 10.0 sec
- **NOAA Station:** 44013

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 072308_104546

---

Draft / Speed for Trip: 124 Scow: GL65

Initial Draft 20.32
Initial Disposal Speed 6.9

Trip Information:
- Trip #: 124
- Tug Name: Cygnus
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd
- Init Aft Draft: 20.32 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start: 7/23/2008 03:35:41
  - Latitude: 42.417577
  - Longitude: -70.596410
  - Aft Draft: 19.51 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End: 7/23/2008 03:36:22
  - Latitude: 42.417635
  - Longitude: -70.594568
  - Aft Draft: 5.19 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 072308_104546

**Trip Information:**
- **Trip #:** 125
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5300 cu yd
- **Start Time:** 7/31/2008 18:27:14
- **Init Aft Draft:** 18.61 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**
- **Placement Start:**
  - **Time:** 7/31/2008 22:53:57
  - **Lat:** 42.417993
  - **Long:** -70.594260
- **Aft Draft:** 18.53 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 7/31/2008 22:54:30
  - **Lat:** 42.418180
  - **Long:** -70.592488
- **Aft Draft:** 10.44 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown
**Material Description:** Unknown

**Wave Information Recorded:**
- **7/31/2008 9:35:00 PM (Local)**
  - **Wave Height:** 1.6 ft
  - **Dominant Wave Period:** 6.0 sec
  - **NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 125 Scow: GL63

Trip Information:
- Trip #: 125
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5300 cu yd
- Start Time: 7/31/2008 18:27:14
- Init Aft Draft: 18.61 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Placement Information:
- Placement Start:
  - Time: 7/31/2008 22:53:57
  - Latitude: 42.417993
  - Longitude: -70.594260
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- Placement End:
  - Time: 7/31/2008 22:54:30
  - Latitude: 42.418180
  - Longitude: -70.592488
  - Aft Draft: 10.44 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Data Information:
- Type: ADISS Play Data.
- Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 080108_170341
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 126
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5700 cu yd
- Start Time: 8/1/2008 04:12:59
- Init Aft Draft: 20.10 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 8/1/2008 07:15:13
  - Lat: 42.418003
  - Long: -70.593327
- Placement End:
  - Time: 8/1/2008 07:15:40
  - Lat: 42.418092
  - Long: -70.592004
- Aft Draft: 18.62 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown
Wave Information Recorded: 8/1/2008 3:57:00 AM (Local)
Wave Height: 1.0 ft
Dominant Wave Period: 9.0 sec
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 126
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5700 cu yd
- Start Time: 8/1/2008 04:12:59
- Init Aft Draft: 20.10 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Placement Information:
- Placement Start:
  - Time: 8/1/2008 07:15:13
  - Latitude: 42.418003
  - Longitude: -70.593327
- Placement End:
  - Time: 8/1/2008 07:15:40
  - Latitude: 42.418092
  - Longitude: -70.592004

Material Source: Unknown
Material Description: Unknown

Draft / Speed for Trip: 126 Scow: GL65

Initial Draft 20.10
Initial Disposal Speed 7.8

Placement:
1 Fri Aug 2008

Legend:
- Transit
- Placement
- Return Transit

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.
### Trip Information:
- **Trip #:** 127
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5600 cu yd
- **Start Time:** 8/1/2008 12:18:45
- **Init Aft Draft:** 18.61 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:**
  - **Time:** 8/1/2008 15:12:56
  - **Lat:** 42.418361
  - **Long:** -70.591214
  - **Aft Draft:** 18.61 ft
  - **Aft Bin:** N/A
- **Placement End:**
  - **Time:** 8/1/2008 15:13:19
  - **Lat:** 42.418217
  - **Long:** -70.590031
  - **Aft Draft:** 11.39 ft
  - **Aft Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 8/1/2008 12:04:00 PM (Local)  
**Wave Height:** 1.3 ft  
**Dominant Wave Period:** 6.0 sec  
**NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 127 Scow: GL63

Initial Draft: 18.61 ft
Initial Disposal Speed: 8.4 knots

Trip Information:
- Trip #: 127
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd
- Start Time: 8/1/2008 12:18:45
- Init Aft Draft: 18.61 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A
- Material Source: Unknown
- Material Description: Unknown

Placement Information:
- Placement Start:
  - Time: 8/1/2008 15:12:56
  - Latitude: 42.418361
  - Longitude: -70.591214
- Placement End:
  - Time: 8/1/2008 15:13:19
  - Latitude: 42.418217
  - Longitude: -70.590031
- Aft Draft: 11.39 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 080408_120517
Trip Information:
- **Trip #:** 128
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/1/2008 21:01:15
- **Init Aft Draft:** 20.40 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

Placement Information:
- **Placement Start:**
  - **Time:** 8/2/2008 00:16:06
  - **Lat:** 42.417681
  - **Long:** -70.595923
- **Placement End:**
  - **Time:** 8/2/2008 00:16:29
  - **Lat:** 42.417765
  - **Long:** -70.594707
- **Aft Draft:** 18.55 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

Material Source: Unknown
Material Description: Unknown
Wave Information Recorded: 8/1/2008 8:44:00 PM (Local)
Wave Height: 1.3 ft
Dominant Wave Period: 8.0 sec
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target. During the outbound transit for load...
Trip Information:

- Trip #: 128
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/1/2008 21:01:15
- Init Aft Draft: 20.40 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:

Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target. During the outbound transit for load #128 with the GL65, a change in draft of approximately 1.8 feet was observed. The change in draft started at 9:35 PM (Local) on 8/1/08 with a draft of 20.39 feet and ended at 12:08 AM (Local) on 8/2/08 with a draft of 18.55 feet.
Trip Information:
- Trip #: 129
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd
- Start Time: 8/2/2008 03:33:10
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start: 8/2/2008 06:36:20
- Place Start Lat: 42.417932
- Place Start Long: -70.594700
- Placement End: 8/2/2008 06:37:01
- Place End Lat: 42.418136
- Place End Long: -70.592632
- Aft Draft: 18.53 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 8/2/2008 3:19:00 AM (Local)
- Wave Height: 1.0 ft
- Dominant Wave Period: 10.0 sec
- NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 129 Scow: GL63

Trip Information:
- Trip #: 129
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd
- Start Time: 8/2/2008 03:33:10
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Placement Information:
- Placement Start: 8/2/2008 06:36:20
  - Latitude: 42.417932
  - Longitude: -70.594700
- Placement End: 8/2/2008 06:37:01
  - Latitude: 42.418136
  - Longitude: -70.592632

Aft Draft: 18.53 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 080408_121039
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
Trip #: 130
Tug: Lemmerhirt
Captain(s): Unknown
Scow: GL65
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5600 cu yd
Start Time: 8/2/2008 09:57:30
Init Aft Draft: 20.40 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Placement Information:
Placement Start:
Time: 8/2/2008 13:22:00
Lat: 42.418000
Long: -70.592899
Aft Draft: 18.70 ft
Aft Bin: N/A

Placement End:
Lat: 42.418168
Long: -70.591153
Aft Draft: 5.78 ft
Aft Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 8/2/2008 9:46:00 AM (Local)
Wave Height: 1.3 ft
Dominant Wave Period: 6.0 sec
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target. During the outbound transit for load
**Trip Information**

- **Trip #:** 130
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5600 cu yd
- **Start Time:** 8/2/2008 09:57:30
- **Init Aft Draft:** 20.40 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Material Source:** Unknown  **Material Description:** Unknown

**Data Information:**

Type: ADISSPlay Data.

**Notes:**
SAIC designated placement locations illustrate a successful placement of material in disposal site target. During the outbound transit for load #130 with the GL65, a change in draft of approximately 1.7 feet was observed. The change in draft started at 10:47 AM (Local) on 8/2/08 with a draft of 20.39 feet and ended at 1:12 PM (Local) on 8/2/08 with a draft of 18.69 feet.
## Trip Information:

<table>
<thead>
<tr>
<th>Trip ID</th>
<th>131</th>
</tr>
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<tbody>
<tr>
<td>Tug</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5600 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>8/2/2008 19:03:34</td>
</tr>
</tbody>
</table>

- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

## Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lat: 42.429196</td>
<td>Lat: 42.429737</td>
</tr>
<tr>
<td>Long: -70.580818</td>
<td>Long: -70.581100</td>
</tr>
</tbody>
</table>

- Aft Draft: 18.53 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

## Material Information:

- Material Source: Unknown
- Material Description: Unknown

## Wave Information:

- Wave Height: 1.0 ft
- Dominant Wave Period: 9.0 sec
- NOAA Station: 44013

## Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 131 Scow: GL63

Initial Draft 18.53 ft
Initial Disposal Speed 6.2

Start Time: 8/2/2008 19:03:34
Init Aft Draft: 18.53 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Placement Information:
Placement Start:
Time: 8/2/2008 22:38:20
Latitude: 42.429196
Longitude: -70.580818
Aft Draft: 18.53 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Time: 8/2/2008 22:38:40
Latitude: 42.429737
Longitude: -70.581100
Aft Draft: 11.07 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.
### Trip Information:
- **Trip #:** 132
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5600 cu yd
- **Start Time:** 8/3/2008 02:14:16
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:**
  - **Time:** 8/3/2008 05:12:12
  - **Lat:** 42.414700
  - **Long:** -70.600742
  - **Aft Draft:** 19.44 ft
  - **Aft Bin:** N/A
- **Placement End:**
  - **Time:** 8/3/2008 05:12:51
  - **Lat:** 42.414947
  - **Long:** -70.598649
  - **Aft Draft:** 5.12 ft
  - **Aft Bin:** N/A

### Material Information:
- **Material Source:** Unknown
- **Material Description:** Unknown

### Wave Information Recorded:
- **Wave Height:** Not Avail.
- **Dominant Wave Period:** Not Avail.
- **NOAA Station:** Not Avail.

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 132 Scow: GL65

Trip Information:
- Trip #: 132
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd
- Start Time: 8/3/2008 02:14:16
- Init Aft Draft: 20.32 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Placement Information:
- Placement Start:
  - Time: 8/3/2008 05:12:12
  - Latitude: 42.414700
  - Longitude: -70.600742
- Placement End:
  - Time: 8/3/2008 05:12:51
  - Latitude: 42.414947
  - Longitude: -70.598649
- Aft Draft: 19.44 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 080408_120357
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- **Trip #**: 133
- **Tug**: Lemmerhirt
- **Captain(s)**: Unknown
- **Scow**: GL63
- **Type**: Split Hull Scow
- **Technique**: Bottom Dump
- **Bin Volume**: 5600 cu yd
- **Start Time**: 8/3/2008 08:48:34
- **Init Aft Draft**: 18.53 ft
- **Init Fore Draft**: N/A
- **Init Aft Bin**: N/A
- **Init Fore Bin**: N/A

Placement Information:
- **Placement Start**:
  - **Time**: 8/3/2008 12:12:44
  - **Lat**: 42.418231
  - **Long**: -70.591416
- **Aft Draft**: 18.53 ft
- **Fore Draft**: N/A
- **Aft Bin**: N/A
- **Fore Bin**: N/A
- **Placement End**:
  - **Lat**: 42.418411
  - **Long**: -70.589901
  - **Aft Draft**: 10.83 ft
  - **Fore Draft**: N/A
  - **Aft Bin**: N/A
  - **Fore Bin**: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded:
- **Date**: 8/3/2008 8:32:00 AM (Local)
- **Wave Height**: 1.0 ft
- **Dominant Wave Period**: 8.0 sec
- **NOAA Station**: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 133 Scow: GL63

Trip Information:
- Trip #: 133
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd
- Start Time: 8/3/2008 08:48:34
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start: Time: 8/3/2008 12:12:44
  - Latitude: 42.418231
  - Longitude: -70.591416
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
  - Latitude: 42.418411
  - Longitude: -70.589901
  - Aft Draft: 10.83 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 080408_121640
**2008 Boston Harbor Maintenance Dredging**  
W912WJ-07-C-0023

### Trip Information:

<table>
<thead>
<tr>
<th>Field</th>
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<tbody>
<tr>
<td>Trip #:</td>
<td>134</td>
</tr>
<tr>
<td>Tug:</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
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<tr>
<td>Scow:</td>
<td>GL65</td>
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<td>Bin Volume:</td>
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<td>Start Time:</td>
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<tr>
<td>Init Aft Draft</td>
<td>20.40 ft</td>
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<td>Init Fore Draft</td>
<td>N/A</td>
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<td>Init Aft Bin:</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin:</td>
<td>N/A</td>
</tr>
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### Placement Information:

<table>
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<tr>
<th>Field</th>
<th>Value</th>
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<tbody>
<tr>
<td>Placement Start</td>
<td>Time: 8/3/2008 19:11:54</td>
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<td>Lat:</td>
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<td>Lat:</td>
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<tr>
<td>Long:</td>
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<table>
<thead>
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<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material Source</td>
<td>Unknown</td>
</tr>
<tr>
<td>Material Description</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

**Wave Information Recorded:** 8/3/2008 3:58:00 PM (Local)

**Wave Height:** Not Avail.  
**Dominant Wave Period:** Not Avail.  
**NOAA Station:** Not Avail.

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target. During the outbound transit for load...
#134 with the GL65, a change in draft of approximately 1.9 feet was observed. The change in draft started at 4:48 PM (Local) on 8/3/08 with a draft of 20.39 feet and ended at 7:11 PM (Local) on 8/3/08 with a draft of 18.4 feet.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 080408_123120
Trip Information

Trip #: 134
Tug Name: Lemmerhirt
Captain(s): Unknown
Scow Name: GL65
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5600 cu yd
Start Time: 8/3/2008 16:18:30
Init Aft Draft: 20.40 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:

Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target. During the outbound transit for load #134 with the GL65, a change in draft of approximately 1.9 feet was observed. The change in draft started at 4:48 PM (Local) on 8/3/08 with a draft of 20.39 feet and ended at 7:11 PM (Local) on 8/3/08 with a draft of 18.4 feet.
**Trip Information:**
- Trip #: 135
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd

**Placement Information:**
- Placement Start:
  - Time: 8/4/2008 02:03:50
  - Lat: 42.416669
  - Long: -70.597431
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 8/4/2008 02:04:24
  - Lat: 42.416892
  - Long: -70.595681
  - Aft Draft: 11.07 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

**Material Source:** Unknown
**Material Description:** Unknown

**Wave Information Recorded:** 8/3/2008 10:39:00 PM (Local)
- Wave Height: Not Avail.
- Dominant Wave Period: Not Avail.
- NOAA Station: Not Avail.

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Trip Information:
- Trip #: 135
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 8/4/2008 02:03:50
  - Latitude: 42.416669
  - Longitude: -70.597431
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 8/4/2008 02:04:24
  - Latitude: 42.416892
  - Longitude: -70.595681
  - Aft Draft: 11.07 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 080408_120330
Trip Information:
- Trip #: 136
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd
- Start Time: 8/4/2008 05:05:30
- Init Aft Draft: 20.32 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start Time: 8/4/2008 08:17:29
- Lat: 42.417099
- Long: -70.597046
- Aft Draft: 19.58 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A
- Placement End Time: 8/4/2008 08:18:10
- Lat: 42.417385
- Long: -70.594994
- Aft Draft: 4.60 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown
Wave Information Recorded: 8/4/2008 4:52:00 AM (Local)
- Wave Height: 2.0 ft
- Dominant Wave Period: 3.0 sec
- NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
**Trip Information:**

- **Trip #:** 136
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5600 cu yd
- **Start Time:** 8/4/2008 05:05:30
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**

- **Placement Start:**
  - **Time:** 8/4/2008 08:17:29
  - **Latitude:** 42.417099
  - **Longitude:** -70.597046
- **Placement End:**
  - **Time:** 8/4/2008 08:18:10
  - **Latitude:** 42.417385
  - **Longitude:** -70.594994

- **Aft Draft:** N/A
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown

**Material Description:** Unknown

**Data Information:**

- **Type:** ADISS Play Data.
- **Notes:**

SAIC designated placement locations illustrate a successful placement of material in disposal site target.
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:

- Trip #: 138
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd
- Init Aft Draft: 20.40 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:

- Placement Start:
  - Lat: 42.417495
  - Long: -70.592213
- Placement End:
  - Lat: 42.417763
  - Long: -70.590128
- Aft Draft: 18.48 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 8/4/2008 8:03:00 PM (Local)
- Wave Height: 0.0 ft
- Dominant Wave Period: 0.0 sec
- NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 138 Scow: GL65

**Trip Information:**
- **Trip #:** 138
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5600 cu yd
- **Start Time:** 8/4/2008 20:22:03
- **Init Aft Draft:** 20.40 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**
- **Placement Start:**
  - **Time:** 8/4/2008 23:31:41
  - **Latitude:** 42.417495
  - **Longitude:** -70.592213
- **Aft Draft:** 18.48 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 8/4/2008 23:32:20
  - **Latitude:** 42.417763
  - **Longitude:** -70.590128
- **Aft Draft:** 5.85 ft
- **Forward Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown
**Material Description:** Unknown

**Data Information:**
- **Type:** ADISSPlay Data.

**Notes:**
SAIC designated placement locations illustrate a successful placement of material in disposal site target.
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:

- **Trip #:** 139
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 0 cu yd
- **Start Time:** 8/5/2008 07:58:33
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

Placement Information:

- **Placement Start:**
  - Lat: 42.417882
  - Long: -70.590747
  - Aft Draft: 18.53 ft
  - Aft Bin: N/A
- **Placement End:**
  - Time: 8/5/2008 11:28:58
  - Lat: 42.418038
  - Long: -70.588588
  - Aft Draft: 10.67 ft
  - Aft Bin: N/A

- **Wave Information Recorded:** 8/5/2008 7:58:33 AM (Local)
- **Wave Height:** 3.3 ft
- **Dominant Wave Period:** 5.0 sec
- **NOAA Station:** 44013

Material Source: Unknown  
Material Description: Unknown

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 080608_102947
Trip Information:
- Trip #: 139
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 0 cu yd
- Start Time: 8/5/2008 07:58:33
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A
- Material Source: Unknown

Placement Information:
  - Latitude: 42.417882
  - Longitude: -70.590747
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End Time: 8/5/2008 11:28:58
  - Latitude: 42.418038
  - Longitude: -70.588588
  - Aft Draft: 10.67 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 080608_102947

### Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>140</th>
</tr>
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<tbody>
<tr>
<td>Tug:</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow:</td>
<td>GL65</td>
</tr>
<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>5700 cu yd</td>
</tr>
<tr>
<td>Start Time:</td>
<td>8/5/2008 17:07:51</td>
</tr>
</tbody>
</table>

- **Init Aft Draft**: 20.40 ft
- **Init Fore Draft**: N/A
- **Init Aft Bin**: N/A
- **Init Fore Bin**: N/A

### Placement Information:

<table>
<thead>
<tr>
<th>Placement Start:</th>
<th>Placement End:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time: 8/5/2008</td>
<td>Time: 8/5/2008</td>
</tr>
</tbody>
</table>

- **Aft Draft**: 18.99 ft
- **Aft Bin**: N/A
- **Fore Draft**: N/A
- **Fore Bin**: N/A

### Material Information:

- **Material Source**: Unknown
- **Material Description**: Unknown

**Wave Information Recorded**: 8/5/2008 4:59:00 PM (Local)

- **Wave Height**: 0.0 ft
- **Dominant Wave Period**: 0.0 sec
- **NOAA Station**: 44013

### Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact**: Marc Wakeman  
**Phone**: (401)847-4210  
**E-mail**: info@adiss-afiss.com  
**Version**: 080608_140615
Draft / Speed for Trip: 140 Scow: GL65

Trip Information:
- Trip #: 140
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5700 cu yd
- Start Time: 8/5/2008 17:07:51
- Init Aft Draft: 20.40 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 8/5/2008 20:11:23
  - Latitude: 42.429717
  - Longitude: -70.582600
  - Aft Draft: 18.99 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- Placement End:
  - Time: 8/5/2008 20:11:50
  - Latitude: 42.429658
  - Longitude: -70.581298
  - Aft Draft: 4.75 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 080608_140615

Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>Tug</th>
<th>Captain(s)</th>
<th>Scow</th>
<th>Type</th>
<th>Technique</th>
<th>Bin Volume</th>
<th>Start Time</th>
<th>Init Aft Draft</th>
<th>Init Fore Draft</th>
<th>Init Aft Bin</th>
<th>Init Fore Bin</th>
</tr>
</thead>
<tbody>
<tr>
<td>141</td>
<td>Lemmerhirt</td>
<td>Unknown</td>
<td>GL63</td>
<td>Split Hull Scow</td>
<td>Bottom Dump</td>
<td>5600 cu yd</td>
<td>8/5/2008 23:40:57</td>
<td>18.53 ft</td>
<td>N/A</td>
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Placement Information:

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<th>Placement Start</th>
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<tbody>
<tr>
<td>Time: 8/6/2008 03:03:37</td>
<td>Time: 8/6/2008 03:03:58</td>
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<table>
<thead>
<tr>
<th>Aft Draft</th>
<th>Fore Draft</th>
<th>Aft Bin</th>
<th>Fore Bin</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.53 ft</td>
<td>N/A</td>
<td>N/A</td>
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Material Source: Unknown  Material Description: Unknown

Wave Information Recorded: 8/5/2008 11:21:00 PM (Local)
Wave Height: Not Avail. Dominant Wave Period: Not Avail. NOAA Station: Not Avail.

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 080608_140642

Draft / Speed for Trip: 141 Scow: GL63

Initial Draft 18.53
Initial Disposal Speed 7.6

Trip Information:
- Trip #: 141
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd
- Start Time: 8/5/2008 23:40:57
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 8/6/2008 03:03:37
  - Latitude: 42.429736
  - Longitude: -70.581907
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- Placement End:
  - Time: 8/6/2008 03:03:58
  - Latitude: 42.429736
  - Longitude: -70.580883
  - Aft Draft: 9.64 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Data Information:
- Type: ADISSPlay Data.
- Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 080608_140642
### Trip Information:

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<table>
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<tr>
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<th>Lemmerhirt</th>
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<tr>
<th>Captain(s)</th>
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<table>
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<table>
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<tr>
<th>Technique</th>
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<tr>
<th>Bin Volume</th>
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<th>Start Time</th>
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<table>
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<tr>
<th>Init Aft Draft</th>
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<th>Init Fore Draft</th>
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<th>Init Aft Bin</th>
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</table>

<table>
<thead>
<tr>
<th>Init Fore Bin</th>
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### Placement Information:

<table>
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<th>Placement Start</th>
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<table>
<thead>
<tr>
<th>Time</th>
<th>Time</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Lat.</th>
<th>Long.</th>
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<tbody>
<tr>
<td>42.429587</td>
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<table>
<thead>
<tr>
<th>Aft Draft</th>
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<tbody>
<tr>
<td>18.62 ft</td>
<td>N/A</td>
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</table>

<table>
<thead>
<tr>
<th>Fore Draft</th>
<th>Aft Bin</th>
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<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
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<table>
<thead>
<tr>
<th>Fore Bin</th>
<th>Aft Bin</th>
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</thead>
<tbody>
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<td>N/A</td>
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</tbody>
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### Notes:

- **Material Source:** Unknown
- **Material Description:** Unknown
- **Wave Information Recorded:** 8/6/2008 5:59:00 AM (Local)
- **Wave Height:** Not Avail.
- **Dominant Wave Period:** Not Avail.
- **NOAA Station:** Not Avail.

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

### SAIC Point of Contact:

- **Marc Wakeman**
- **Phone:** (401)847-4210
- **E-mail:** info@adiss-afiss.com

Version: 080708_112534
Draft / Speed for Trip: 142 Scow: GL65

Initial Draft 19.88
Initial Disposal Speed 7.6

3 Wed Aug 2008

LEGEND: Transit Placement Return Transit

Trip Information
- Trip #: 142
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd
- Start Time: 8/6/2008 06:54:41
- Init Aft Draft: 19.88 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 8/6/2008 09:52:40
  - Latitude: 42.429587
  - Longitude: -70.582328
  - Aft Draft: 18.62 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- Placement End:
  - Time: 8/6/2008 09:53:09
  - Latitude: 42.429650
  - Longitude: -70.580939
  - Aft Draft: 5.34 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 080708_112534

### Trip Information:

<table>
<thead>
<tr>
<th>Trip #:</th>
<th>143</th>
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<tbody>
<tr>
<td>Tug:</td>
<td>Lemmerhirt</td>
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<tr>
<td>Captain(s):</td>
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<td>Technique:</td>
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<tr>
<td>Bin Volume:</td>
<td>5700 cu yd</td>
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<tr>
<td>Start Time:</td>
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<tr>
<td>Init Aft Draft:</td>
<td>18.53 ft</td>
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<td>Init Aft Bin:</td>
<td>N/A</td>
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<td>Init Fore Bin:</td>
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### Placement Information:

<table>
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<th>Placement Start:</th>
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<td>Time:</td>
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</tr>
<tr>
<td>Lat:</td>
<td>Lat:</td>
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<tr>
<td>42.429536</td>
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<td>Long:</td>
<td>Long:</td>
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<td>-70.581580</td>
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<tr>
<td>18.53 ft</td>
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<td>Fore Bin:</td>
<td>Fore Bin:</td>
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Material Source: Unknown  
Material Description: Unknown

Wave Information Recorded: 8/6/2008 1:52:00 PM (Local)  
Wave Height: Not Avail.  Dominant Wave Period: Not Avail.  NOAA Station: Not Avail.

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 080708_113028
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 143 Scow: GL63

<table>
<thead>
<tr>
<th>Time</th>
<th>Speed (Knots)</th>
<th>Draft (ft)</th>
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</thead>
<tbody>
<tr>
<td>3PM</td>
<td>Speed</td>
<td>Draft</td>
</tr>
<tr>
<td>6PM</td>
<td></td>
<td>Initial</td>
</tr>
</tbody>
</table>

Initial Draft: 18.53 ft
Initial Disposal Speed: 7.4

Trip Information:
- Trip #: 143
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5700 cu yd
- Start Time: 8/6/2008 14:26:05
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 8/6/2008 17:42:24
  - Latitude: 42.429536
  - Longitude: -70.581580
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 8/6/2008 17:42:47
  - Latitude: 42.429559
  - Longitude: -70.580507

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 080708_113028

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

**Trip Information:**
- **Trip #:** 144
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5600 cu yd
- **Start Time:** 8/7/2008 04:54:36
- **Init Aft Draft:** 19.51 ft
- **Init Aft Bin:** N/A
- **Init Fore Draft:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**
- **Placement Start Time:** 8/7/2008 07:57:28
  - **Lat:** 42.429327
  - **Long:** -70.582073
  - **Aft Draft:** 18.33 ft
  - **Aft Bin:** N/A
- **Placement End Time:** 8/7/2008 07:58:13
  - **Lat:** 42.429486
  - **Long:** -70.579788
  - **Aft Draft:** 5.71 ft
  - **Aft Bin:** N/A

**Material Source:** Unknown
**Material Description:** Unknown

**Wave Information Recorded:** 8/7/2008 4:22:00 AM (Local)
- **Wave Height:** 0.0 ft
- **Dominant Wave Period:** 0.0 sec
- **NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman
**Phone:** (401)847-4210
**E-mail:** info@adiss-afiss.com

**Version:** 080808_111528

---

## Trip Information

- **Trip #:** 144
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5600 cu yd
- **Start Time:** 8/7/2008 04:54:36
- **Init Aft Draft:** 19.51 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

## Placement Information

- **Placement Start:**
  - Time: 8/7/2008 07:57:28
  - Latitude: 42.429327
  - Longitude: -70.582073
- **Placement End:**
  - Time: 8/7/2008 07:58:13
  - Latitude: 42.429486
  - Longitude: -70.579788
- **Aft Draft:** 18.33 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

## Material Source

- **Material Source:** Unknown
- **Material Description:** Unknown

## Data Information

- **Type:** ADISSPlay Data.
- **Notes:**
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

## SAIC Point of Contact

- **Marc Wakeman**
- **Phone:** (401)847-4210
- **E-mail:** info@adiss-afiss.com

**Version:** 080808_111528

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:

Trip #: 145
Tug: Lemmerhirt
Captain(s): Unknown
Scow: GL63
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5600 cu yd
Start Time: 8/7/2008 12:33:48
Init Aft Draft: 18.45 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Placement Information:

Time: 8/7/2008 16:00:24
Lat: 42.429837
Long: -70.581879
Aft Draft: 18.53 ft
Aft Bin: N/A

Time: 8/7/2008 16:01:03
Lat: 42.429950
Long: -70.579981
Aft Draft: 9.88 ft
Aft Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 8/7/2008 12:21:00 PM (Local)
Wave Height: 0.0 ft Dominant Wave Period: 0.0 sec
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 080808_114512

Draft / Speed for Trip: 145 Scow: GL63

Trip Information
- Trip #: 145
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd
- Start Time: 8/7/2008 12:33:48
- Init Aft Draft: 18.45 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information
- Placement Start: 8/7/2008 16:00:24
  - Latitude: 42.429837
  - Longitude: -70.581879
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End: 8/7/2008 16:01:03
  - Latitude: 42.429950
  - Longitude: -70.579981
  - Aft Draft: 9.88 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 080808_114512

### Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>146</th>
</tr>
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<tbody>
<tr>
<td>Tug:</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow:</td>
<td>GL65</td>
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<td>Type:</td>
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<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>5700 cu yd</td>
</tr>
<tr>
<td>Start Time:</td>
<td>8/7/2008 19:57:58</td>
</tr>
<tr>
<td>Init Aft Draft:</td>
<td>20.32 ft</td>
</tr>
<tr>
<td>Init Aft Bin:</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Draft:</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin:</td>
<td>N/A</td>
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### Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
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</thead>
<tbody>
<tr>
<td>Lat: 42.429601</td>
<td>Lat: 42.429805</td>
</tr>
<tr>
<td>Long: -70.582153</td>
<td>Long: -70.580463</td>
</tr>
<tr>
<td>Aft Draft: 20.10 ft</td>
<td>Aft Draft: 5.71 ft</td>
</tr>
<tr>
<td>Fore Draft: N/A</td>
<td>Fore Draft: N/A</td>
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<tr>
<td>Aft Bin: N/A</td>
<td>Aft Bin: N/A</td>
</tr>
<tr>
<td>Fore Bin: N/A</td>
<td>Fore Bin: N/A</td>
</tr>
</tbody>
</table>

### Notes:

- Material Source: Unknown
- Material Description: Unknown
- Wave Information Recorded: 8/7/2008 7:28:00 PM (Local)
- Wave Height: 0.0 ft
- Dominant Wave Period: 0.0 sec
- NOAA Station: 44013

**Legend:**
- Transit
- Placement
- Return Transit

**Hull Status:**
- Closed / Unknown
- Open

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 080808_111943
Trip Information:

Trip #: 146
Tug Name: Lemmerhirt
Captain(s): Unknown
Scow Name: GL65
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5700 cu yd
Start Time: 8/7/2008 19:57:58
Init Aft Draft: 20.32 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Placement Information:

Placement Start:
Time: 8/7/2008 23:01:28
Latitude: 42.429601
Longitude: -70.582153
Aft Draft: 20.10 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Time: 8/7/2008 23:02:01
Latitude: 42.429805
Longitude: -70.580463
Aft Draft: 5.71 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 080808_111943
2008 Boston Harbor Maintenance Dredging  
W912WJ-07-C-0023

**Trip Information:**

- **Trip #:** 147
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5700 cu yd
- **Start Time:** 8/8/2008 03:10:42
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**

- **Time:** 8/8/2008 07:08:42
- **Lat:** 42.429617
- **Long:** -70.582721
- **Aft Draft:** 18.53 ft
- **Aft Bin:** N/A

- **Time:** 8/8/2008 07:09:09
- **Lat:** 42.429762
- **Long:** -70.581703
- **Aft Draft:** 11.31 ft
- **Aft Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 8/8/2008 2:51:00 AM (Local)  
**Wave Height:** 0.0 ft  
**Dominant Wave Period:** 0.0 sec  
**NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 080808_115500

8/11/2008
Draft / Speed for Trip: 147 Scow: GL63

8 Fil Aug 2008

LEGEND:  

Trip Information

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<tr>
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<tbody>
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<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow Name:</td>
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<tr>
<td>Type:</td>
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<tr>
<td>Start Time:</td>
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<tr>
<td>Init Aft Draft</td>
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<td>Init Aft Bin:</td>
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<td>Init Fore Bin:</td>
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Placement Information:

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<thead>
<tr>
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<tbody>
<tr>
<td>Latitude: 42.429617</td>
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<tr>
<td>Longitude: -70.582721</td>
<td>Longitude: -70.581703</td>
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<td>Aft Draft: 18.53 ft</td>
<td>Aft Draft: 11.31 ft</td>
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<tr>
<td>Fore Draft: N/A</td>
<td>Forward Draft: N/A</td>
</tr>
<tr>
<td>Aft Bin: N/A</td>
<td>Aft Bin: N/A</td>
</tr>
<tr>
<td>Fore Bin: N/A</td>
<td>Fore Bin: N/A</td>
</tr>
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</table>

Material Source: Unknown  
Material Description: Unknown

Data Information:

Type: ADISSPlay Data.  
Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  
Phone: (401)847-4210  
E-mail: info@adiss-afiss.com

Version: 080808_115500

8/11/2008
Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>148</th>
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<tbody>
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<tr>
<td>Captain(s)</td>
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<td>Scow</td>
<td>GL65</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5700 cu yd</td>
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<tr>
<td>Start Time</td>
<td>8/8/2008 10:50:58</td>
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Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>Time</td>
</tr>
</tbody>
</table>

Init Aft Draft: 20.32 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Aft Draft: 18.70 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 8/8/2008 10:19:00 AM (Local)
Wave Height: 2.6 ft
Dominant Wave Period: 7.0 sec
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 081108_132011
### Draft / Speed for Trip: 148 Scow: GL65

<table>
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<th>Time</th>
<th>Draft (ft)</th>
<th>Speed (Knots)</th>
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<tbody>
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<td>11 AM</td>
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<td></td>
</tr>
<tr>
<td>12 PM</td>
<td></td>
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<td>1 PM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 PM</td>
<td></td>
<td></td>
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<tr>
<td>3 PM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 PM</td>
<td></td>
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</table>

**Initial Draft 20.32 ft**

**Initial Disposal Speed 7.9**

### Trip Information

<table>
<thead>
<tr>
<th>Trip #</th>
<th>148</th>
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<tbody>
<tr>
<td>Tug Name:</td>
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<td>Captain(s):</td>
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<td>Scow Name:</td>
<td>GL65</td>
</tr>
<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
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<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>5700 cu yd</td>
</tr>
<tr>
<td>Start Time:</td>
<td>8/8/2008 10:50:58</td>
</tr>
<tr>
<td>Init Aft Draft:</td>
<td>20.32 ft</td>
</tr>
<tr>
<td>Init Fore Draft:</td>
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<tr>
<td>Init Aft Bin:</td>
<td>N/A</td>
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<tr>
<td>Init Fore Bin:</td>
<td>N/A</td>
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### Placement Information

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<tr>
<td>Longitude:</td>
<td>-70.582528</td>
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<td>Aft Draft:</td>
<td>18.70 ft</td>
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<tr>
<td>Fore Draft:</td>
<td>N/A</td>
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<td>Aft Bin:</td>
<td>N/A</td>
</tr>
<tr>
<td>Fore Bin:</td>
<td>N/A</td>
</tr>
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</table>

<table>
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<th></th>
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<tbody>
<tr>
<td>Latitude:</td>
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<td>Aft Bin:</td>
<td>N/A</td>
</tr>
<tr>
<td>Fore Bin:</td>
<td>N/A</td>
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</tbody>
</table>

### Material Information

- **Material Source:** Unknown
- **Material Description:** Unknown

---

**Data Information:**

- Type: ADISSPlay Data.
- Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com

**Version:** 081108_132011

---

2008 Boston Harbor Maintenance Dredging  
W912WJ-07-C-0023

**Trip Information:**

<table>
<thead>
<tr>
<th>Trip #</th>
<th>149</th>
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<tbody>
<tr>
<td>Tug</td>
<td>Lemmerhirt</td>
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<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5700 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>8/8/2008 20:07:42</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>18.53 ft</td>
</tr>
<tr>
<td>Init Fore Draft</td>
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<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
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<tr>
<td>Init Fore Bin</td>
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**Placement Information:**

<table>
<thead>
<tr>
<th>Placement Start</th>
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<tbody>
<tr>
<td>Lat: 42.429573</td>
<td>Lat: 42.429558</td>
</tr>
<tr>
<td>Long: -70.582054</td>
<td>Long: -70.579896</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aft Draft</th>
<th>Aft Bin</th>
<th>Fore Draft</th>
<th>Fore Bin</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.53 ft</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>11.15 ft</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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**Material Source:** Unknown  
**Material Description:** Unknown  

**Wave Information Recorded:** 8/8/2008 7:54:00 PM (Local)  
**Wave Height:** 2.0 ft  
**Dominant Wave Period:** 7.0 sec  
**NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target. The hull status sensor remained in the OPEN position during the return transit of load #149. The sensor switched back to CLOSED after returning to the dredge area.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 081108_132222

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=103375,103376,103380,103391,...
### Trip Information

<table>
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<tr>
<th>Trip #</th>
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<tbody>
<tr>
<td>Tug Name</td>
<td>Lemmerhirt</td>
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<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow Name</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5700 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>8/8/2008 20:07:42</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>18.53 ft</td>
</tr>
<tr>
<td>Init Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
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**Material Source:** Unknown  
**Material Description:** Unknown

### Placement Information:

<table>
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<tr>
<th>Placement Start</th>
<th>Placement End</th>
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<tbody>
<tr>
<td>Latitude</td>
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<td>Longitude</td>
<td>-70.582054</td>
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<tr>
<td>Aft Draft</td>
<td>18.53 ft</td>
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<td>Fore Draft</td>
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<tr>
<td>Aft Bin</td>
<td>N/A</td>
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<tr>
<td>Fore Bin</td>
<td>N/A</td>
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<tr>
<td>Latitude</td>
<td>42.429558</td>
</tr>
<tr>
<td>Longitude</td>
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<tr>
<td>Aft Draft</td>
<td>11.15 ft</td>
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<td>N/A</td>
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<tr>
<td>Fore Bin</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Data Information:**

**Type:** ADISSPlay Data.  
**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target. The hull status sensor remained in the OPEN position during the return transit of load #149. The sensor switched back to CLOSED after returning to the dredge area.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

Version: 081108_132222
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 150
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5700 cu yd
- Start Time: 8/9/2008 03:17:15
- Init Aft Draft: 20.32 ft
- Init Aft Bin: N/A
- Init Fore Draft: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start: 8/9/2008 07:19:21
- Lat: 42.429255
- Long: -70.582271
- Aft Draft: 20.17 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A
- Placement End: 8/9/2008 07:19:44
- Lat: 42.429350
- Long: -70.581157
- Aft Draft: 6.15 ft
- Aft Bin: N/A

Material Source: Unknown
Material Description: Unknown
Wave Information Recorded: 8/9/2008 7:54:00 AM (Local)
Wave Height: 1.6 ft Dominant Wave Period: 8.0 sec NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 081108_132046
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 150 Scow: GL65

Trip Information

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trip #:</td>
<td>150</td>
</tr>
<tr>
<td>Tug Name:</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow Name:</td>
<td>GL65</td>
</tr>
<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>5700 cu yd</td>
</tr>
<tr>
<td>Start Time:</td>
<td>8/9/2008 03:17:15</td>
</tr>
<tr>
<td>Init Aft Draft:</td>
<td>20.32 ft</td>
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<tr>
<td>Init Fore Draft:</td>
<td>N/A</td>
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<tr>
<td>Init Aft Bin:</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin:</td>
<td>N/A</td>
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Material Source: Unknown
Material Description: Unknown

Placement Information:

<table>
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<th>Value</th>
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<tbody>
<tr>
<td>Placement Start:</td>
<td></td>
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<tr>
<td>Time:</td>
<td>8/9/2008 07:19:21</td>
</tr>
<tr>
<td>Latitude:</td>
<td>42.429255</td>
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<tr>
<td>Longitude:</td>
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<tr>
<td>Aft Draft:</td>
<td>20.17 ft</td>
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<td>Fore Draft:</td>
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<td>Aft Bin:</td>
<td>N/A</td>
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<tr>
<td>Fore Bin:</td>
<td>N/A</td>
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Placement End:

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<tbody>
<tr>
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<tr>
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<td>42.429350</td>
</tr>
<tr>
<td>Longitude:</td>
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</tr>
<tr>
<td>Aft Draft:</td>
<td>6.15 ft</td>
</tr>
<tr>
<td>Forward Draft:</td>
<td>N/A</td>
</tr>
<tr>
<td>Aft Bin:</td>
<td>N/A</td>
</tr>
<tr>
<td>Fore Bin:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Data Information:

Type: ADISSPlay Data.
Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com

Version: 081108_132046
### Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>Tug</th>
<th>Captain(s)</th>
<th>Scow</th>
<th>Type</th>
<th>Technique</th>
<th>Bin Volume</th>
<th>Start Time</th>
<th>Init Aft Draft</th>
<th>Init Fore Draft</th>
<th>Init Aft Bin</th>
<th>Init Fore Bin</th>
<th>Placement Start</th>
<th>Placement End</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>151</td>
<td>Lemmerhirt</td>
<td>Unknown</td>
<td>GL63</td>
<td>Split Hull Scow</td>
<td>Bottom Dump</td>
<td>5900 cu yd</td>
<td>8/9/2008</td>
<td>18.53 ft</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>8/9/2008 14:34:17</td>
<td>8/9/2008 14:34:46</td>
<td></td>
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### Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lat: 42.428305</td>
<td>Lat: 42.429382</td>
</tr>
<tr>
<td>Long: -70.584202</td>
<td>Long: -70.584397</td>
</tr>
</tbody>
</table>

- **Init Aft Draft:** 18.53 ft
- **Aft Draft:** 18.61 ft
- **Aft Bin:** N/A
- **Material Source:** Unknown
- **Material Description:** Unknown
- **Wave Information Recorded:** 8/9/2008 10:52:00 AM (Local)
- **Wave Height:** 1.6 ft
- **Dominant Wave Period:** 8.0 sec
- **NOAA Station:** 44013

### Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 081108_132259
Trip Information:
- Trip #: 151
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/9/2008 11:13:18
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 8/9/2008 14:34:17
  - Latitude: 42.428305
  - Longitude: -70.584202
  - Aft Draft: 18.61 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 8/9/2008 14:34:46
  - Latitude: 42.429382
  - Longitude: -70.584397
  - Aft Draft: 9.64 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com

Version: 081108_132259
### Trip Information:

- **Trip #**: 152
- **Tug**: Lemmerhirt
- **Captain(s)**: Unknown
- **Scow**: GL65
- **Type**: Split Hull Scow
- **Technique**: Bottom Dump

### Placement Information:

- **Bin Volume**: 6000 cu yd
- **Start Time**: 8/9/2008 18:44:39
- **Init Aft Draft**: 20.40 ft
- **Init Fore Draft**: N/A
- **Init Aft Bin**: N/A
- **Init Fore Bin**: N/A
- **Aft Draft**: 20.32 ft
- **Fore Draft**: N/A
- **Aft Bin**: N/A
- **Fore Bin**: N/A

### Placement Start:
- **Time**: 8/9/2008 21:54:51
- **Lat**: 42.419068
- **Long**: -70.595966

### Placement End:
- **Time**: 8/9/2008 21:55:12
- **Lat**: 42.419153
- **Long**: -70.594889

### Material Source**: Unknown  
**Material Description**: Unknown

### Wave Information Recorded:

- **Date & Time**: 8/9/2008 10:25:00 PM (Local)
- **Wave Height**: Not Avail.
- **Dominant Wave Period**: Not Avail.
- **NOAA Station**: Not Avail.

---

**Notes**: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact**: Marc Wakeman  
**Phone**: (401)847-4210  
**E-mail**: info@adiss-afiss.com  
**Version**: 081108_133005

---

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=103375,103376,103380,103391,...

8/12/2008
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 152 Scow: GL65

Initial Draft 20.40
Initial Disposal Speed 8.1

Trip Information
Trip #: 152
Tug Name: Lemmerhirt
Captain(s): Unknown
Scow Name: GL65
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 6000 cu yd
Start Time: 8/9/2008 18:44:39
Init Aft Draft: 20.40 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A
Material Source: Unknown
Material Description: Unknown

Placement Information:
Placement Start:
Time: 8/9/2008 21:54:51
Latitude: 42.419068
Longitude: -70.595966
Aft Draft: 20.32 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Latitude: 42.419153
Longitude: -70.594889
Aft Draft: 4.97 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 081108_133005

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:

- Trip #: 153
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd
- Start Time: 8/10/2008 01:38:31
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:

- Placement Start Time: 8/10/2008 05:02:23
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A
- Placement End Time: 8/10/2008 05:02:50
- Aft Draft: 9.17 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 8/10/2008 1:13:00 AM (Local)
Wave Height: 2.0 ft
Dominant Wave Period: 8.0 sec
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 081108_132448
Trip Information:
- **Trip #:** 153
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5600 cu yd
- **Start Time:** 8/10/2008 01:38:31
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

Placement Information:
- **Placement Start:**
  - **Time:** 8/10/2008 05:02:23
  - **Latitude:** 42.428089
  - **Longitude:** -70.584060
  - **Aft Draft:** 18.53 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 8/10/2008 05:02:50
  - **Latitude:** 42.429056
  - **Longitude:** -70.584314
  - **Aft Draft:** 9.17 ft
  - **Forward Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  
Phone: (401)847-4210  
E-mail: info@adiss-afiss.com

Version: 081108_132448
2008 Boston Harbor Maintenance Dredging  
W912WJ-07-C-0023

**Trip Information:**
- **Trip #:** 154  
- **Tug:** Lemmerhirt  
- **Captain(s):** Unknown  
- **Scow:** GL65  
- **Type:** Split Hull Scow  
- **Technique:** Bottom Dump  
- **Bin Volume:** 5700 cu yd  
- **Start Time:** 8/10/2008 10:44:09

**Placement Information:**
- **Placement Start:**
  - **Time:** 8/10/2008 13:51:08  
  - **Lat:** 42.419508  
  - **Long:** -70.593352
- **Aft Draft:** 20.40 ft  
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A
- **Aft Draft:** 6.59 ft
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Placement End:**
- **Time:** 8/10/2008 13:51:49  
- **Lat:** 42.419551  
- **Long:** -70.591353

**Material Source:** Unknown  
**Material Description:** Unknown  
**Wave Information Recorded:** 8/10/2008 11:43:00 AM (Local)  
**Wave Height:** Not Avail.  
**Dominant Wave Period:** Not Avail.  
**NOAA Station:** Not Avail.

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 081108_133034
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 154 Scow: GL65

Trip Information
- Trip #: 154
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5700 cu yd
- Start Time: 8/10/2008 10:44:09
- Init Aft Draft: 20.40 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 8/10/2008 13:51:08
  - Latitude: 42.419508
  - Longitude: -70.593352
  - Aft Draft: 20.40 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 8/10/2008 13:51:49
  - Latitude: 42.419551
  - Longitude: -70.591353
  - Aft Draft: 6.59 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 081108_133034

### Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>155</th>
</tr>
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<tbody>
<tr>
<td>Tug</td>
<td>Lemmerhirt</td>
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<tr>
<td>Captain(s)</td>
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<td>Scow</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5800 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>8/10/2008 19:10:37</td>
</tr>
</tbody>
</table>

| Init Aft Draft | 18.53 ft |
| Init Fore Draft | N/A |
| Init Aft Bin | N/A |
| Init Fore Bin | N/A |

### Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
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<tr>
<td>Lat</td>
<td>42.419398</td>
</tr>
<tr>
<td>Long</td>
<td>-70.592345</td>
</tr>
</tbody>
</table>

| Aft Draft | 10.04 ft |
| Fore Draft | N/A |
| Aft Bin | N/A |
| Fore Bin | N/A |

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 8/10/2008 6:40:00 PM (Local)  
**Wave Height:** Not Avail.  
**Dominant Wave Period:** Not Avail.  
**NOAA Station:** Not Avail.

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 081108_133101
# Draft / Speed for Trip: 155 Scow: GL63

![Draft / Speed for Trip: 155 Scow: GL63](image)

### Trip Information

<table>
<thead>
<tr>
<th>Trip #</th>
<th>155</th>
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<tbody>
<tr>
<td>Tug Name</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow Name</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5800 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>8/10/2008 19:10:37</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>18.53 ft</td>
</tr>
<tr>
<td>Init Fore Draft</td>
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<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
<td>N/A</td>
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</table>

### Placement Information

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<th>Placement Start</th>
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<tbody>
<tr>
<td>Latitude: 42.419398</td>
<td>Latitude: 42.419625</td>
</tr>
<tr>
<td>Longitude: -70.592345</td>
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<tr>
<td>Aft Draft: 18.53 ft</td>
<td>Aft Draft: 10.04 ft</td>
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<tr>
<td>Forward Draft: N/A</td>
<td>Forward Draft: N/A</td>
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<tr>
<td>Aft Bin: N/A</td>
<td>Aft Bin: N/A</td>
</tr>
<tr>
<td>Fore Bin: N/A</td>
<td>Fore Bin: N/A</td>
</tr>
</tbody>
</table>

### Material Source:
Unknown

### Material Description:
Unknown

### Data Information:

- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 081108_133101
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:

Trip #: 156
Tug: Lemmerhirt
Captain(s): Unknown
Scow: GL65
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5600 cu yd
Start Time: 8/11/2008 01:53:27
Init Aft Draft: 20.32 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Placement Information:

Placement Start:
Time: 8/11/2008 05:15:02
Lat: 42.419702
Long: -70.591288
Aft Draft: 19.44 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Time: 8/11/2008 05:15:37
Lat: 42.419755
Long: -70.589531
Aft Draft: 6.81 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown
Wave Information Recorded: 8/11/2008 1:11:00 AM (Local)
Wave Height: Not Avail.
Dominant Wave Period: Not Avail.
NOAA Station: Not Avail.

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 081108_133205

Draft / Speed for Trip: 156 Scow: GL65

Initial Draft 20.32

Initial Disposal Speed 7.9

Placement

11 Mon Aug 2008

LEGEND: ⬜️ Transit  🔴 Placement  ⬆️ Return Transit

Trip Information
- Trip #: 156
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd
- Start Time: 8/11/2008 01:53:27
- Init Aft Draft: 20.32 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 8/11/2008 05:15:02
  - Latitude: 42.419702
  - Longitude: -70.591288
  - Aft Draft: 19.44 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 8/11/2008 05:15:37
  - Latitude: 42.419755
  - Longitude: -70.589531
  - Aft Draft: 6.81 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 081108_133205
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:

<table>
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<tr>
<th>Trip #:</th>
<th>157</th>
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<tbody>
<tr>
<td>Tug:</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
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<tr>
<td>Scow:</td>
<td>GL63</td>
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<td>Type:</td>
<td>Split Hull Scow</td>
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<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
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<td>Bin Volume:</td>
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<td>Start Time:</td>
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<td>18.53 ft</td>
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<tr>
<td>Init Aft Bin:</td>
<td>N/A</td>
</tr>
<tr>
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Placement Information:

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<th>Placement End:</th>
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<tr>
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</tr>
<tr>
<td>Aft Draft:</td>
<td>18.53 ft</td>
</tr>
<tr>
<td>Fore Draft:</td>
<td>N/A</td>
</tr>
<tr>
<td>Aft Bin:</td>
<td>N/A</td>
</tr>
<tr>
<td>Fore Bin:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Placement Start:</th>
<th>Placement End:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lat:</td>
<td>42.419513</td>
</tr>
<tr>
<td>Long:</td>
<td>-70.593816</td>
</tr>
<tr>
<td>Aft Draft:</td>
<td>9.88 ft</td>
</tr>
<tr>
<td>Fore Draft:</td>
<td>N/A</td>
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<tr>
<td>Aft Bin:</td>
<td>N/A</td>
</tr>
<tr>
<td>Fore Bin:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Material Source: Unknown  Material Description: Unknown
Wave Information Recorded: 8/11/2008 9:20:00 AM (Local)
Wave Height: Not Avail.  Dominant Wave Period: Not Avail.  NOAA Station: Not Avail.

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 081208_120839
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:

- Trip #: 157
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5700 cu yd
- Start Time: 8/11/2008 09:42:09
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:

- Placement Start:
  - Time: 8/11/2008 12:54:04
  - Latitude: 42.419423
  - Longitude: -70.594932
- Placement End:
  - Latitude: 42.419513
  - Longitude: -70.593816
- Aft Draft: 18.53 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401) 847-4210
E-mail: info@adiss-afiss.com
Version: 081208_120839
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

**Trip Information:**
- **Trip #:** 158
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 8/11/2008 19:22:00
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**
- **Placement Start:**
  - **Time:** 8/11/2008 22:29:20
  - **Lat:** 42.419240
  - **Long:** -70.594467
- **Placement End:**
  - **Time:** 8/11/2008 22:29:53
  - **Lat:** 42.419366
  - **Long:** -70.592887
- **Aft Draft:** 20.32 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown
**Material Description:** Unknown

**Wave Information Recorded:**
- **8/11/2008 7:19:00 PM (Local)**
- **Wave Height:** Not Avail.
- **Dominant Wave Period:** Not Avail.
- **NOAA Station:** Not Avail.

**Notes:**
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:**
Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 081208_120442

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 158 Scow: GL65

Trip Information:
- Trip #: 158
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Start Time: 8/11/2008 19:22:00
- Init Aft Draft: 20.32 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
  Latitude: 42.419240
  Longitude: -70.594467
  Latitude: 42.419366
  Longitude: -70.592887
- Aft Draft: 20.32 ft
- Forward Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 081208_120442
### Trip Information:
- **Trip #:** 159
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 8/12/2008 04:45:18
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:**
  - **Time:** 8/12/2008 08:12:46
  - **Lat:** 42.419431
  - **Long:** -70.592675
- **Aft Draft:** 18.45 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 8/12/2008 08:13:33
  - **Lat:** 42.419601
  - **Long:** -70.590593
- **Aft Draft:** 10.04 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 8/12/2008 4:15:00 AM (Local)
**Wave Height:** Not Avail.  
**Dominant Wave Period:** Not Avail.  
**NOAA Station:** Not Avail.

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 159 Scow: GL63

Initial Draft
18.63

Initial Disposal Speed
6.7

Placement Information:
Placement Start:
Time: 8/12/2008 08:12:46
Latitude: 42.419431
Longitude: -70.592675
Aft Draft: 18.45 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Time: 8/12/2008 08:13:33
Latitude: 42.419601
Longitude: -70.590593
Aft Draft: 10.04 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Trip Information:
Trip #: 159
Tug Name: Lemmerhirt
Captain(s): Unknown
Scow Name: GL63
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5800 cu yd
Start Time: 8/12/2008 04:45:18
Init Aft Draft: 18.53 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman Phone: (401)847-4210 E-mail: info@adiss-afiss.com
Version: 081308_113108

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 160
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/12/2008 13:34:18
  - Init Aft Draft: 20.40 ft
  - Init Fore Draft: N/A
  - Init Aft Bin: N/A
  - Init Fore Bin: N/A

Placement Information:
- Placement Start: 8/12/2008 16:57:02
  - Aft Draft: 20.40 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End: 8/12/2008 16:57:27
  - Aft Draft: 6.37 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 8/12/2008 1:16:00 PM (Local)
Wave Height: Not Avail. Dominant Wave Period: Not Avail. NOAA Station: Not Avail.

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 081308_114212
### Trip Information
- **Trip #:** 160
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/12/2008 13:34:18
- **Init Aft Draft:** 20.40 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:**
  - **Time:** 8/12/2008 16:57:02
  - **Aft Draft:** 20.40 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 8/12/2008 16:57:27
  - **Aft Draft:** 6.37 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Material Information:
- **Source:** Unknown
- **Description:** Unknown

### Data Information:
- **Type:** ADISSplay Data.
- **Notes:**
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 081308_114212

---

8/15/2008
### Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>161</th>
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</thead>
<tbody>
<tr>
<td>Tug</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
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<tr>
<td>Scow</td>
<td>GL63</td>
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<tr>
<td>Type</td>
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<tr>
<td>Technique</td>
<td>Bottom Dump</td>
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<tr>
<td>Bin Volume</td>
<td>5900 cu yd</td>
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<tr>
<td>Start Time</td>
<td>8/12/2008 20:54:56</td>
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### Placement Information:

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<th>Placement Start</th>
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<tr>
<td>Lat: 42.419191</td>
<td>Lat: 42.419322</td>
</tr>
<tr>
<td>Long: -70.595084</td>
<td>Long: -70.593748</td>
</tr>
</tbody>
</table>

- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A
- Aft Draft: 18.53 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A
- Aft Draft: 10.12 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 8/12/2008 8:33:00 PM (Local)
Wave Height: Not Avail.
Dominant Wave Period: Not Avail.
NOAA Station: Not Avail.

---

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 081308_114642  

---

[Map Image]
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 161 Scow: GL63

Initial Draft 18.63

Initial Disposal Speed 8.1

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman Phone: (401)847-4210 E-mail: info@adiss-afiss.com
Version: 081308_114642

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:

<table>
<thead>
<tr>
<th>Trip #:</th>
<th>162</th>
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<tbody>
<tr>
<td>Tug:</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
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<tr>
<td>Scow:</td>
<td>GL65</td>
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<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
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<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>5900 cu yd</td>
</tr>
<tr>
<td>Start Time:</td>
<td>8/13/2008 04:26:20</td>
</tr>
<tr>
<td>Init Aft Draft:</td>
<td>20.32 ft</td>
</tr>
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<td>Init Fore Draft:</td>
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<tr>
<td>Init Aft Bin:</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin:</td>
<td>N/A</td>
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Placement Information:

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<tr>
<th>Placement Start:</th>
<th>Placement End:</th>
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</thead>
<tbody>
<tr>
<td>Lat:</td>
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<tr>
<td>Long:</td>
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</tr>
<tr>
<td>Aft Draft:</td>
<td>20.32 ft</td>
</tr>
<tr>
<td>Fore Draft:</td>
<td>N/A</td>
</tr>
<tr>
<td>Aft Bin:</td>
<td>N/A</td>
</tr>
<tr>
<td>Fore Bin:</td>
<td>N/A</td>
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Material Source: Unknown  Material Description: Unknown

Wave Information Recorded: 8/13/2008 4:04:00 AM (Local)
Wave Height: Not Avail.  Dominant Wave Period: Not Avail.  NOAA Station: Not Avail.

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 081308_115309


8/15/2008
**Trip Information**

- **Trip #**: 162
- **Tug Name**: Lemmerhirt
- **Captain(s)**: Unknown
- **Scow Name**: GL65
- **Type**: Split Hull Scow
- **Technique**: Bottom Dump
- **Bin Volume**: 5900 cu yd
- **Start Time**: 8/13/2008 04:26:20
- **Init Aft Draft**: 20.32 ft
- **Init Fore Draft**: N/A
- **Init Aft Bin**: N/A
- **Init Fore Bin**: N/A

**Placement Information**

- **Placement Start**
  - **Time**: 8/13/2008 07:40:55
  - **Latitude**: 42.419265
  - **Longitude**: -70.594161
  - **Aft Draft**: 20.32 ft
  - **Fore Draft**: N/A
  - **Aft Bin**: N/A
  - **Fore Bin**: N/A

- **Placement End**
  - **Time**: 8/13/2008 07:41:42
  - **Latitude**: 42.419502
  - **Longitude**: -70.591833
  - **Aft Draft**: 6.81 ft
  - **Forward Draft**: N/A
  - **Aft Bin**: N/A
  - **Fore Bin**: N/A

**Material Source**: Unknown
**Material Description**: Unknown

**Data Information**

- **Type**: ADISSPlay Data.
- **Notes**: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact**: Marc Wakeman  
**Phone**: (401)847-4210  
**E-mail**: info@adiss-afiss.com

**Version**: 081308_115309

Trip Information:

Trip #: 163
Tug: Lemmerhirt
Captain(s): Unknown
Scow: GL63
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5900 cu yd
Start Time: 8/13/2008 11:57:27

Init Aft Draft: 18.61 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Placement Information:

Time Start: 8/13/2008 15:09:40
Time End: 8/13/2008 15:10:01

Aft Draft: 18.61 ft
Aft Bin: N/A
Fore Draft: N/A
Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 8/13/2008 11:29:00 AM (Local)
Wave Height: Not Avail.
Dominant Wave Period: Not Avail.
NOAA Station: Not Avail.

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman Phone: (401)847-4210 E-mail: info@adiss-afiss.com
Version: 081408_105741

Draft / Speed for Trip: 163 Scow: GL63

Placment Information:
- Placement Start:
  - Time: 8/13/2008 15:09:40
  - Latitude: 42.419625
  - Longitude: -70.591769
  - Aft Draft: 18.61 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 8/13/2008 15:10:01
  - Latitude: 42.419623
  - Longitude: -70.590918
  - Aft Draft: 12.97 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 081408_105741
### Trip Information:

<table>
<thead>
<tr>
<th>Trip #:</th>
<th>164</th>
</tr>
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<tbody>
<tr>
<td>Tug:</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow:</td>
<td>GL65</td>
</tr>
<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>5900 cu yd</td>
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<tr>
<td>Start Time:</td>
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<td>Init Aft Draft:</td>
<td>20.40 ft</td>
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<tr>
<td>Init Aft Bin:</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Draft:</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin:</td>
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### Placement Information:

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<th>Placement Start:</th>
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<td>Long: -70.591124</td>
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<table>
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<tr>
<th>Aft Draft:</th>
<th>Aft Bin:</th>
<th>Fore Draft:</th>
<th>Fore Bin:</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.40 ft</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>6.81 ft</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Notes:

- Material Source: Unknown
- Material Description: Unknown
- Wave Information Recorded: N/A (Local)
- Wave Height: Not Avail.
- Dominant Wave Period: Not Avail.
- NOAA Station: Not Avail.

---

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 081408_120457

---

8/15/2008
Draft / Speed for Trip: 164 Scow: GL65

<table>
<thead>
<tr>
<th>Trip Information</th>
<th>Placement Information</th>
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<tbody>
<tr>
<td>Trip #: 164</td>
<td>Placement Start:</td>
</tr>
<tr>
<td>Tug Name: Lemmerhart</td>
<td>Time: 8/13/2008 21:25:43</td>
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<tr>
<td>Scow Name: GL65</td>
<td>Longitude: -70.591124</td>
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<tr>
<td>Type: Split Hull Scow</td>
<td>Aft Draft: 20.40 ft</td>
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<td>Technique: Bottom Dump</td>
<td>Fore Draft: N/A</td>
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<tr>
<td>Bin Volume: 5900 cu yd</td>
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<td>Start Time: 8/13/2008 18:08:15</td>
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<td>Init Aft Draft: 20.40 ft</td>
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<td>Init Fore Bin: N/A</td>
<td>Type: ADISSPlay Data.</td>
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<tr>
<td></td>
<td>Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.</td>
</tr>
</tbody>
</table>

Initial Disposal Speed 7.5

Initial Draft 20.40

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 081408_120457

### Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>Tug</th>
<th>Captain(s)</th>
<th>Scow</th>
<th>Type</th>
<th>Technique</th>
<th>Bin Volume</th>
<th>Start Time</th>
<th>Init Aft Draft</th>
<th>Init Fore Draft</th>
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<th>Init Fore Bin</th>
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<tbody>
<tr>
<td>165</td>
<td>Lemmerhirt</td>
<td>Unknown</td>
<td>GL63</td>
<td>Split Hull Scow</td>
<td>Bottom Dump</td>
<td>5900 cu yd</td>
<td>8/14/2008 02:08:56</td>
<td>18.53 ft</td>
<td>N/A</td>
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### Placement Information:

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</tr>
<tr>
<td>Long: -70.595374</td>
<td>Long: -70.593947</td>
</tr>
</tbody>
</table>

- Aft Draft: 18.45 ft
- Aft Bin: N/A
- Fore Draft: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: N/A (Local)
Wave Height: Not Avail.
Dominant Wave Period: Not Avail.
NOAA Station: Not Avail.

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Trip Information:
- **Trip #:** 165
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/14/2008 02:08:56
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

Placement Information:
- **Placement Start:**
  - **Time:** 8/14/2008 05:10:27
  - **Latitude:** 42.419203
  - **Longitude:** -70.595374
  - **Aft Draft:** 18.45 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 8/14/2008 05:10:56
  - **Latitude:** 42.419324
  - **Longitude:** -70.593947
  - **Aft Draft:** 12.18 ft
  - **Forward Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 081408_120517
<table>
<thead>
<tr>
<th>Trip Information:</th>
<th>Placement Information:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trip #: 166</td>
<td>Placement Start:</td>
</tr>
<tr>
<td>Tug: Lemmerhirt</td>
<td>Time: 8/14/2008</td>
</tr>
<tr>
<td>Captain(s): Unknown</td>
<td>21:10:01</td>
</tr>
<tr>
<td>Scow: GL65</td>
<td>Placement End:</td>
</tr>
<tr>
<td>Type: Split Hull Scow</td>
<td>Time: 8/14/2008</td>
</tr>
<tr>
<td>Technique: Bottom Dump</td>
<td>21:10:53</td>
</tr>
<tr>
<td>Bin Volume: 5900 cu yd</td>
<td></td>
</tr>
<tr>
<td>Start Time: 8/14/2008 17:44:05</td>
<td></td>
</tr>
<tr>
<td>Init Aft Draft: 20.40 ft</td>
<td></td>
</tr>
<tr>
<td>Init Fore Draft: N/A</td>
<td></td>
</tr>
<tr>
<td>Init Aft Bin: N/A</td>
<td></td>
</tr>
<tr>
<td>Init Fore Bin: N/A</td>
<td></td>
</tr>
<tr>
<td>Aft Draft: 20.25 ft</td>
<td></td>
</tr>
<tr>
<td>Fore Draft: N/A</td>
<td></td>
</tr>
<tr>
<td>Aft Bin: N/A</td>
<td></td>
</tr>
<tr>
<td>Fore Bin: N/A</td>
<td></td>
</tr>
<tr>
<td>Material Source: Unknown</td>
<td>Material Description: Unknown</td>
</tr>
<tr>
<td>Wave Information Recorded: 8/14/2008 5:12:00 PM (Local)</td>
<td></td>
</tr>
<tr>
<td>Wave Height: Not Avail.</td>
<td>Dominant Wave Period: Not Avail.</td>
</tr>
<tr>
<td>NOAA Station: Not Avail.</td>
<td></td>
</tr>
</tbody>
</table>

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 166 Scow: GL65

Initial Draft 20.40 ft
Initial Disposal Speed 7.5 knots

6PM 9PM

Placement
Time

14 Thu Aug 2008

LEGEND: Transit Placement Return Transit

Trip Information
Trip #: 166
Tug Name: Lemmerhirt
Captain(s): Unknown
Scow Name: GL65
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5900 cu yd
Start Time: 8/14/2008 17:44:05
Init Aft Draft: 20.40 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Placement Information:
Placement Start:
Time: 8/14/2008
21:10:01
Latitude: 42.419279
Longitude: -70.593892

Placement End:
Time: 8/14/2008
21:10:53
Latitude: 42.419529
Longitude: -70.591329

Aft Draft: 20.25 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 081508_113530

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=103627,103628&reload=...
Trip Information:

- Trip #: 167
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/15/2008 01:39:25
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:

- Placement Start:
  - Time: 8/15/2008 05:31:33
  - Lat: 42.419621
  - Long: -70.592141
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- Placement End:
  - Time: 8/15/2008 05:32:12
  - Lat: 42.419799
  - Long: -70.590132
  - Aft Draft: 10.51 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown
Wave Information Recorded: 8/15/2008 4:12:00 AM (Local)
Wave Height: Not Avail. Dominant Wave Period: Not Avail. NOAA Station: Not Avail.

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 167 Scow: GL63

<table>
<thead>
<tr>
<th>Trip Information</th>
<th>Placement Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trip #: 167</td>
<td>Placement Start:</td>
</tr>
<tr>
<td>Tug Name: Lemmerhirt</td>
<td>Time: 8/15/2008</td>
</tr>
<tr>
<td>Captain(s): Unknown</td>
<td>05:31:33</td>
</tr>
<tr>
<td>Scow Name: GL63</td>
<td>Latitude: 42.419621</td>
</tr>
<tr>
<td>Type: Split Hull Scow</td>
<td>Longitude: -70.592141</td>
</tr>
<tr>
<td>Bin Volume: 5900 cu yd</td>
<td></td>
</tr>
<tr>
<td>Start Time: 8/15/2008 01:39:25</td>
<td></td>
</tr>
<tr>
<td>Init Aft Draft: 18.53 ft</td>
<td>Aft Draft: 18.53 ft</td>
</tr>
<tr>
<td>Init Fore Draft: N/A</td>
<td>Fore Draft: N/A</td>
</tr>
<tr>
<td>Init Aft Bin: N/A</td>
<td>Aft Bin: N/A</td>
</tr>
<tr>
<td>Init Fore Bin: N/A</td>
<td>Fore Bin: N/A</td>
</tr>
</tbody>
</table>

Material Source: Unknown Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 081508_113946
**Trip Information:**

- **Trip #:** 168
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/15/2008 11:39:36
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**

- **Placement Start:**
  - Time: 8/15/2008 15:23:06
  - Lat: 42.419389
  - Long: -70.590892
- **Placement End:**
  - Time: 8/15/2008 15:23:35
  - Lat: 42.419510
  - Long: -70.589511
- **Aft Draft:** 20.40 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:**

- **Wave Height:** Not Avail.
- **Dominant Wave Period:** Not Avail.
- **NOAA Station:** Not Avail.

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Trip Information:
- Trip #: 168
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/15/2008 11:39:36
- Init Aft Draft: 20.32 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Placement Information:
- Placement Start:
  - Time: 8/15/2008 15:23:06
  - Latitude: 42.419389
  - Longitude: -70.590892
- Placement End:
  - Time: 8/15/2008 15:23:35
  - Latitude: 42.419510
  - Longitude: -70.589511

Aft Draft: 20.40 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Data Information:
Type: ADISS/Play Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 081808_163435
## Trip Information:

<table>
<thead>
<tr>
<th>Trip #:</th>
<th>169</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug:</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow:</td>
<td>GL63</td>
</tr>
<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>5900 cu yd</td>
</tr>
<tr>
<td>Start Time:</td>
<td>8/15/2008 18:49:57</td>
</tr>
<tr>
<td>Init Aft Draft:</td>
<td>18.53 ft</td>
</tr>
<tr>
<td>Init Fore Draft:</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Aft Bin:</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin:</td>
<td>N/A</td>
</tr>
</tbody>
</table>

## Placement Information:

<table>
<thead>
<tr>
<th>Placement Start:</th>
<th>Placement End:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lat: 42.419335</td>
<td>Lat: 42.419391</td>
</tr>
<tr>
<td>Long: -70.594749</td>
<td>Long: -70.593811</td>
</tr>
</tbody>
</table>

| Init Aft Draft: | 18.45 ft |
| Init Fore Draft: | N/A |
| Init Aft Bin: | N/A |
| Init Fore Bin: | N/A |

Material Source: Unknown  
Material Description: Unknown

Wave Information Recorded: 8/15/2008 7:00:00 PM (Local)
Wave Height: Not Avail.  
Dominant Wave Period: Not Avail.  
NOAA Station: Not Avail.

### Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 169 Scow: GL63

Initial Draft 18.53
Initial Disposal Speed 7.5

Placement Information:
Placement Start:
Time: 8/15/2008 22:02:21
Latitude: 42.419335
Longitude: -70.594749
Aft Draft: 18.45 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Time: 8/15/2008 22:02:41
Latitude: 42.419391
Longitude: -70.593811
Aft Draft: 13.21 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 081808_163450
**Trip Information:**
- **Trip #:** 170
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 8/16/2008 02:55:22
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**
- **Time:** 8/16/2008 06:18:36
- **Lat:** 42.419248
- **Long:** -70.593908
- **Aft Draft:** 20.32 ft
- **Aft Bin:** N/A
- **Fore Draft:** N/A
- **Fore Bin:** N/A
- **Time:** 8/16/2008 06:18:55
- **Lat:** 42.419233
- **Long:** -70.592978
- **Aft Draft:** 7.99 ft
- **Aft Bin:** N/A
- **Fore Draft:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 8/16/2008 2:15:00 AM (Local)
- **Wave Height:** Not Avail.
- **Dominant Wave Period:** Not Avail.
- **NOAA Station:** Not Avail.

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 170 Scow: GL65

<table>
<thead>
<tr>
<th>Trip Information</th>
<th>Placement Information</th>
<th>Data Information</th>
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</thead>
<tbody>
<tr>
<td>Trip #: 170</td>
<td>Placement Start:</td>
<td>Type: ADISSPlay Data.</td>
</tr>
<tr>
<td>Tug Name: Lemmerhirt</td>
<td>Time: 8/16/2008 06:18:36</td>
<td>Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.</td>
</tr>
<tr>
<td>Captain(s): Unknown</td>
<td>Latitude: 42.419248</td>
<td></td>
</tr>
<tr>
<td>Scow Name: GL65</td>
<td>Longitude: -70.593908</td>
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<tr>
<td>Type: Split Hull Scow</td>
<td>Placement End:</td>
<td></td>
</tr>
<tr>
<td>Technique: Bottom Dump</td>
<td>Time: 8/16/2008 06:18:55</td>
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<tr>
<td>Bin Volume: 5800 cu yd</td>
<td>Latitude: 42.419233</td>
<td></td>
</tr>
<tr>
<td>Start Time: 8/16/2008 02:55:22</td>
<td>Longitude: -70.592978</td>
<td></td>
</tr>
<tr>
<td>Init Aft Draft: 20.32 ft</td>
<td>Aft Draft: 20.32 ft</td>
<td></td>
</tr>
<tr>
<td>Init Fore Draft: N/A</td>
<td>Fore Draft: N/A</td>
<td></td>
</tr>
<tr>
<td>Init Aft Bin: N/A</td>
<td>Aft Bin: N/A</td>
<td></td>
</tr>
<tr>
<td>Init Fore Bin: N/A</td>
<td>Fore Bin: N/A</td>
<td></td>
</tr>
<tr>
<td>Material Source: Unknown</td>
<td>Material Description: Unknown</td>
<td></td>
</tr>
</tbody>
</table>

SAIC Point of Contact: Marc Wakeman    Phone: (401)847-4210    E-mail: info@adiss-afiss.com
Version: 081808_163549
**Trip Information:**
- **Trip #:** 171
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/16/2008 09:37:35
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**
- **Placement Start:**
  - **Time:** 8/16/2008 12:48:32
  - **Lat:** 42.419386
  - **Long:** -70.592184
- **Placement End:**
  - **Time:** 8/16/2008 12:49:07
  - **Lat:** 42.419605
  - **Long:** -70.590412
- **Aft Draft:** 18.61 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown
**Material Description:** Unknown

**Wave Information Recorded:**
- **Date:** 8/16/2008
- **Time:** 09:16:00 AM (Local)
- **Wave Height:** Not Avail.
- **Dominant Wave Period:** Not Avail.
- **NOAA Station:** Not Avail.

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 171 Scow: GL63

<table>
<thead>
<tr>
<th>Trip Information</th>
<th>Placement Information</th>
<th>Placement End:</th>
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</thead>
<tbody>
<tr>
<td>Trip #: 171</td>
<td>Placement Start:</td>
<td></td>
</tr>
<tr>
<td>Tug Name: Lemmerhirt</td>
<td>Time: 8/16/2008</td>
<td>Time: 8/16/2008</td>
</tr>
<tr>
<td>Captain(s): Unknown</td>
<td>12:48:32</td>
<td>12:49:07</td>
</tr>
<tr>
<td>Scow Name: GL63</td>
<td>Latitude: 42.419386</td>
<td>Latitude: 42.419605</td>
</tr>
<tr>
<td>Type: Split Hull Scow</td>
<td>Longitude: -70.592184</td>
<td>Longitude: -70.590412</td>
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<tr>
<td>Bin Volume: 5900 cu yd</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Start Time: 8/16/2008 09:37:35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Init Aft Draft: 18.53 ft</td>
<td>Aft Draft: 18.61 ft</td>
<td>Aft Draft: 10.91 ft</td>
</tr>
<tr>
<td>Init Fore Draft: N/A</td>
<td>Fore Draft: N/A</td>
<td>Forward Draft: N/A</td>
</tr>
<tr>
<td>Init Aft Bin: N/A</td>
<td>Aft Bin: N/A</td>
<td>Aft Bin: N/A</td>
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<tr>
<td>Init Fore Bin: N/A</td>
<td>Fore Bin: N/A</td>
<td>Fore Bin: N/A</td>
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</tbody>
</table>

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

**Trip Information:**
- **Trip #:** 172
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/16/2008 20:48:46
- **Init Aft Draft:** 20.40 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**
- **Placement Start:**
  - Time: 8/17/2008 00:06:59
  - Lat: 42.419524
  - Long: -70.590510
- **Aft Draft:** 20.32 ft
- **Aft Bin:** N/A
- **Fore Draft:** N/A
- **Fore Bin:** N/A

- **Placement End:**
  - Time: 8/17/2008 00:07:13
  - Lat: 42.419605
  - Long: -70.589804
- **Aft Draft:** 10.14 ft
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown
**Material Description:** Unknown

Wave Information Recorded: 8/16/2008 8:13:00 PM (Local)
- **Wave Height:** Not Avail.
- **Dominant Wave Period:** Not Avail.
- **NOAA Station:** Not Avail.

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
**Draft / Speed for Trip: 172 Scow: GL65**

![Graph showing draft and speed.](image)

**Trip Information**
- **Trip #:** 172
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/16/2008 20:48:46
  - **Init Aft Draft:** 20.40 ft
  - **Init Fore Draft:** N/A
  - **Init Aft Bin:** N/A
  - **Init Fore Bin:** N/A
- **Material Source:** Unknown
  - **Material Description:** Unknown

**Placement Information**
- **Placement Start:**
  - **Time:** 8/17/2008 00:06:59
  - **Latitude:** 42.419524
  - **Longitude:** -70.590510
  - **Aft Draft:** 20.32 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 8/17/2008 00:07:13
  - **Latitude:** 42.419605
  - **Longitude:** -70.589804
  - **Aft Draft:** 10.14 ft
  - **Forward Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

**Data Information**
- **Type:** ADISSPlay Data.
- **Notes:**
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com

**Version:** 081808_163631
### Trip Information:
- **Trip #:** 173
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/17/2008 03:52:47
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A
- **Material Source:** Unknown
- **Material Description:** Unknown

### Placement Information:
- **Placement Start Time:** 8/17/2008 07:01:50
  - **Lat:** 42.419358
  - **Long:** -70.595056
  - **Aft Draft:** 18.45 ft
  - **Aft Bin:** N/A
- **Placement End Time:** 8/17/2008 07:02:25
  - **Lat:** 42.419502
  - **Long:** -70.593190
  - **Aft Draft:** 11.47 ft
  - **Aft Bin:** N/A

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 173 Scow: GL63

17 Sun Aug 2008

Trip Information
- Trip #: 173
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/17/2008 03:52:47

Placement Information:
- Placement Start: Time: 8/17/2008 07:01:50
  Latitude: 42.419358
  Longitude: -70.595056
- Placement End: Time: 8/17/2008 07:02:25
  Latitude: 42.419502
  Longitude: -70.593190

Material Source: Unknown
Material Description: Unknown

Draft / Speed:
- Initial Draft: 18.53 ft
- Initial Disposal Speed: 8.3
- Placement Information:
  - Aft Draft: 18.45 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Forward Bin: N/A

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 081808_163650
### Trip Information:
- **Trip #:** 174
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/17/2008 10:21:12
- **Init Aft Draft:** 20.40 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:**
  - **Time:** 8/17/2008 13:22:35
  - **Lat:** 42.419309
  - **Long:** -70.594060
- **Aft Draft:** 20.47 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 8/17/2008 13:23:04
  - **Lat:** 42.419453
  - **Long:** -70.592468
- **Aft Draft:** 8.51 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

### Material Information:
- **Material Source:** Unknown
- **Material Description:** Unknown

### Wave Information Recorded:
- **Date:** 8/17/2008 9:47:00 AM (Local)
- **Wave Height:** Not Avail.
- **Dominant Wave Period:** Not Avail.
- **NOAA Station:** Not Avail.

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 174 Scow: GL65

**Trip Information**
- **Trip #:** 174
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/17/2008 10:21:12
- **Init Aft Draft:** 20.40 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Material Source:** Unknown  **Material Description:** Unknown

**Placement Information:**
- **Placement Start:**
  - **Time:** 8/17/2008 13:22:35
  - **Latitude:** 42.419309
  - **Longitude:** -70.594060
- **Aft Draft:** 20.47 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 8/17/2008 13:23:04
  - **Latitude:** 42.419453
  - **Longitude:** -70.592468
- **Aft Draft:** 8.51 ft
- **Forward Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Data Information:**
- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com  
**Version:** 081808_163707
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 175
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 6000 cu yd
- Start Time: 8/17/2008 23:26:20

Placement Information:
- Placement Start:
  - Time: 8/18/2008 02:52:08
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- Placement End:
  - Time: 8/18/2008 02:52:33
  - Aft Draft: 10.67 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown
Wave Information Recorded: 8/17/2008 11:11:00 PM (Local)
Wave Height: Not Avail. Dominant Wave Period: Not Avail. NOAA Station: Not Avail.

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 175 Scow: GL63

Initial Draft: 18.53 ft
Initial Disposal Speed: 8.4 knots

Aug 2008

Placement
Time

LEGEND: Transit Placement Return Transit

Trip Information:
- Trip #: 175
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Bin Volume: 6000 cu yd
- Start Time: 8/17/2008 23:26:20
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Placement Information:
- Placement Start:
  - Time: 8/18/2008 02:52:08
  - Latitude: 42.419415
  - Longitude: -70.591954
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- Placement End:
  - Time: 8/18/2008 02:52:33
  - Latitude: 42.419617
  - Longitude: -70.590684
  - Aft Draft: 10.67 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 081808_163725
### Trip Information:

- **Trip #:** 176
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 8/18/2008 22:52:18
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:

- **Placement Start:**
  - Time: 8/19/2008 01:32:37
  - Lat: 42.413055
  - Long: -70.595240
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- **Placement End:**
  - Time: 8/19/2008 01:33:18
  - Lat: 42.413396
  - Long: -70.592978
  - Aft Draft: 10.28 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

### Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Trip Information:
- Trip #: 176
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Start Time: 8/18/2008 22:52:18
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 8/19/2008 01:32:37
  - Latitude: 42.413055
  - Longitude: -70.595240
- Placement End:
  - Time: 8/19/2008 01:33:18
  - Latitude: 42.413396
  - Longitude: -70.592978

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.
### 2008 Boston Harbor Maintenance Dredging

**Trip Information:**

<table>
<thead>
<tr>
<th>Trip #</th>
<th>Tug</th>
<th>Captain(s)</th>
<th>Scow</th>
<th>Type</th>
<th>Technique</th>
<th>Bin Volume</th>
<th>Start Time</th>
<th>Init Aft Draft</th>
<th>Init Fore Draft</th>
<th>Init Aft Bin</th>
<th>Init Fore Bin</th>
</tr>
</thead>
<tbody>
<tr>
<td>177</td>
<td>Lemmerhirt</td>
<td>Unknown</td>
<td>GL65</td>
<td>Split Hull Scow</td>
<td>Bottom Dump</td>
<td>5800 cu yd</td>
<td>8/19/2008 08:36:33</td>
<td>20.40 ft</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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**Placement Information:**

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time: 8/19/2008</td>
<td>Time: 8/19/2008</td>
</tr>
<tr>
<td>11:19:10</td>
<td>11:19:23</td>
</tr>
</tbody>
</table>

- Aft Draft: 20.40 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Trip Information:

- **Trip #:** 177
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Bin Volume:** 5800 cu yd
- **Start Time:** 8/19/2008 08:36:33
- **Init Aft Draft:** 20.40 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

Placement Information:

- **Placement Start:** 8/19/2008 11:19:10
  - **Latitude:** 42.413235
  - **Longitude:** -70.593342
- **Placement End:** 8/19/2008 11:19:23
  - **Latitude:** 42.413264
  - **Longitude:** -70.592677

- **Aft Draft:** 20.40 ft
- **Aft Bin:** N/A
- **Aft Draft:** 6.67 ft
- **Aft Bin:** N/A

Data Information:

- **Type:** ADISSPlay Data.
- **Material Source:** Unknown
- **Material Description:** Unknown

Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
Version: 081908_154333
### Trip Information:
- **Trip #:** 178
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/19/2008 14:35:44
- **Init Aft Draft:** 18.61 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:**
  - **Time:** 8/19/2008 17:12:13
  - **Lat:** 42.413440
  - **Long:** -70.591697
- **Aft Draft:** 18.61 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 8/19/2008 17:12:30
  - **Lat:** 42.413625
  - **Long:** -70.590808
- **Aft Draft:** 10.36 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

### Material Information:
- **Material Source:** Unknown
- **Material Description:** Unknown

### Wave Information:
- **Wave Height:** Not Avail.
- **Dominant Wave Period:** Not Avail.
- **NOAA Station:** Not Avail.

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.
**Trip Information**

<table>
<thead>
<tr>
<th>Trip #:</th>
<th>178</th>
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<tbody>
<tr>
<td>Tug Name:</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow Name:</td>
<td>GL63</td>
</tr>
<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
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<tr>
<td>Bin Volume:</td>
<td>5900 cu yd</td>
</tr>
<tr>
<td>Start Time:</td>
<td>8/19/2008 14:35:44</td>
</tr>
</tbody>
</table>

| Init Aft Draft: | 18.61 ft |
| Init Fore Draft: | N/A |
| Init Aft Bin: | N/A |
| Init Fore Bin: | N/A |
| Material Source: | Unknown |
| Material Description: | Unknown |

**Placement Information**

<table>
<thead>
<tr>
<th>Placement Start:</th>
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<tbody>
<tr>
<td>Time: 8/19/2008 17:12:13</td>
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<tr>
<td>Latitude: 42.413440</td>
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<tr>
<td>Longitude: -70.591697</td>
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<table>
<thead>
<tr>
<th>Placement End:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time: 8/19/2008 17:12:30</td>
</tr>
<tr>
<td>Latitude: 42.413625</td>
</tr>
<tr>
<td>Longitude: -70.590808</td>
</tr>
</tbody>
</table>

| Aft Draft: | 18.61 ft |
| Fore Draft: | N/A |
| Aft Bin: | N/A |
| Fore Bin: | N/A |
| Aft Draft: | 10.36 ft |
| Forward Draft: | N/A |
| Aft Bin: | N/A |
| Fore Bin: | N/A |

**Data Information:**

Type: ADISSPlay Data.

Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 082008_112237
### Trip Information:

<table>
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<th>Trip #</th>
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<tbody>
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<td>Tug</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL65</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5900 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>8/19/2008 22:14:48</td>
</tr>
</tbody>
</table>

### Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
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<tbody>
<tr>
<td>Time: 8/20/2008</td>
<td>Time: 8/20/2008</td>
</tr>
<tr>
<td>01:06:58</td>
<td>01:07:37</td>
</tr>
</tbody>
</table>

| Init Aft Draft | 20.32 ft |
| Init Fore Draft | N/A |
| Init Aft Bin   | N/A |
| Init Fore Bin  | N/A |

| Aft Draft | 20.32 ft |
| Fore Draft | N/A |
| Aft Bin   | N/A |
| Fore Bin  | N/A |

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 179 Scow: GL65

<table>
<thead>
<tr>
<th>Trip Information</th>
<th>Placement Information</th>
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<tbody>
<tr>
<td>Trip #: 179</td>
<td>Placement Start:</td>
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<tr>
<td>Tug Name: Lemmerhirt</td>
<td>Time: 8/20/2008</td>
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<tr>
<td>Captain(s): Unknown</td>
<td>01:06:58</td>
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<tr>
<td>Scow Name: GL65</td>
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<tr>
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<td>Longitude: -70.590661</td>
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<td>Technique: Bottom Dump</td>
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<td>Bin Volume: 5900 cu yd</td>
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<td>Start Time: 8/19/2008 22:14:48</td>
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<tr>
<td>Init Aft Draft: 20.32 ft</td>
<td>Aft Draft: 20.32 ft</td>
</tr>
<tr>
<td>Init Fore Draft: N/A</td>
<td>Fore Draft: N/A</td>
</tr>
<tr>
<td>Init Aft Bin: N/A</td>
<td>Aft Bin: N/A</td>
</tr>
<tr>
<td>Init Fore Bin: N/A</td>
<td>Fore Bin: N/A</td>
</tr>
</tbody>
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Material Source: Unknown  Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 180
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/20/2008 04:25:27

Placement Information:
- Placement Start: 8/20/2008 07:02:31
- Placement End: 8/20/2008 07:03:22
- Aft Draft: 10.67 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 8/20/2008 4:08:00 AM (Local)
Wave Height: Not Avail.
Dominant Wave Period: Not Avail.
NOAA Station: Not Avail.

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 180 Scow: GL63

Initial Draft 18.45
Initial Disposal Speed 8

Placement Information:
Placement Start:
Time: 8/20/2008 07:02:31
Latitude: 42.413175
Longitude: -70.595323
Aft Draft: 18.45 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Time: 8/20/2008 07:03:22
Latitude: 42.413729
Longitude: -70.592793
Aft Draft: 10.67 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Trip Information:
Trip #: 180
Tug Name: Lemmerhirt
Captain(s): Unknown
Scow Name: GL63
Type: Split Hull Scow
Bin Volume: 5900 cu yd
Start Time: 8/20/2008 04:25:27
Init Aft Draft: 18.45 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 082008_112919
**2008 Boston Harbor Maintenance Dredging**  
**W912WJ-07-C-0023**

<table>
<thead>
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<td>Placement Start:</td>
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<td>Fore Bin:</td>
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Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 8/20/2008 9:41:00 AM (Local)
Wave Height: 2.3 ft Dominant Wave Period: 4.0 sec
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  
Phone: (401)847-4210  
E-mail: info@adiss-afiss.com

Version: 082108_113910

Draft / Speed for Trip: 181 Scow: GL65

Placement Information:
- Placement Start: 8/20/2008 12:59:22
  - Latitude: 42.412998
  - Longitude: -70.593237
  - Aft Draft: 20.40 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End: 8/20/2008 13:00:13
  - Latitude: 42.413174
  - Longitude: -70.590257
  - Aft Draft: 6.59 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Trip Information:
- Trip #: 181
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/20/2008 10:18:58
- Initial Aft Draft: 20.32 ft
- Initial Fore Draft: N/A
- Initial Aft Bin: N/A
- Initial Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 082108_113910

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=103843,103858,103859,103860,...
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

**Trip Information:**
- **Trip #:** 182
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/20/2008 16:12:31
- **Init Aft Draft:** 18.61 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**
- **Placement Start:**
  - **Time:** 8/20/2008 18:59:13
  - **Lat:** 42.428492
  - **Long:** -70.580382
  - **Aft Draft:** 18.45 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 8/20/2008 18:59:46
  - **Lat:** 42.429536
  - **Long:** -70.579695
  - **Aft Draft:** 11.07 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

**Material Source:** Unknown
**Material Description:** Unknown
**Wave Information Recorded:** 8/20/2008 3:29:00 PM (Local)
**Wave Height:** 1.3 ft
**Dominant Wave Period:** 3.0 sec
**NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 082208_155622

### Trip Information

- **Trip #:** 182
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/20/2008 16:12:31
- **Init Aft Draft:** 18.61 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information

- **Placement Start:**
  - **Time:** 8/20/2008 18:59:13
  - **Latitude:** 42.428492
  - **Longitude:** -70.580382
  - **Aft Draft:** 18.45 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 8/20/2008 18:59:46
  - **Latitude:** 42.429536
  - **Longitude:** -70.579695
  - **Aft Draft:** 11.07 ft
  - **Forward Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Data Information

- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401) 847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 082208_155622
2008 Boston Harbor Maintenance Dredging  
W912WJ-07-C-0023

Trip Information:

<table>
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<th>Value</th>
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<tbody>
<tr>
<td>Trip #</td>
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</tr>
<tr>
<td>Tug</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL65</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5900 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>8/20/2008 23:45:35</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>20.32 ft</td>
</tr>
<tr>
<td>Init Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
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Placement Information:

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<th>Value</th>
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</thead>
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<td>8/21/2008 02:33:28</td>
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<tr>
<td>Placement End</td>
<td>8/21/2008 02:34:11</td>
</tr>
<tr>
<td>Aft Draft</td>
<td>20.32 ft</td>
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<tr>
<td>Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Fore Bin</td>
<td>N/A</td>
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</table>

Material Source: Unknown  
Material Description: Unknown

Wave Information Recorded: 8/20/2008 11:10:00 PM (Local)
Wave Height: 1.6 ft  
Dominant Wave Period: 3.0 sec  
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  
Phone: (401)847-4210  
E-mail: info@adiss-afiss.com

Version: 082108_124807

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 183 Scow: GL65

Initial Draft 20.32
Initial Disposal Speed 8.1

<table>
<thead>
<tr>
<th>Trip Information</th>
<th>Placement Information:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trip #: 183</td>
<td>Placement Start:</td>
</tr>
<tr>
<td>Tug Name: Lemmerhirt</td>
<td>Time: 8/21/2008 02:33:28</td>
</tr>
<tr>
<td>Captain(s): Unknown</td>
<td>Latitude: 42.413483</td>
</tr>
<tr>
<td>Scow Name: GL65</td>
<td>Longitude: -70.591813</td>
</tr>
<tr>
<td>Type: Split Hull Scow</td>
<td>Aft Draft: 20.32 ft</td>
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<tr>
<td>Technique: Bottom Dump</td>
<td>Fore Draft: N/A</td>
</tr>
<tr>
<td>Bin Volume: 5900 cu yd</td>
<td>Aft Bin: N/A</td>
</tr>
<tr>
<td>Start Time: 8/20/2008 23:45:35</td>
<td>Fore Bin: N/A</td>
</tr>
<tr>
<td>Init Aft Draft: 20.32 ft</td>
<td></td>
</tr>
<tr>
<td>Init Fore Draft: N/A</td>
<td></td>
</tr>
<tr>
<td>Init Aft Bin: N/A</td>
<td></td>
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<td>Init Fore Bin: N/A</td>
<td></td>
</tr>
</tbody>
</table>

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman   Phone: (401)847-4210   E-mail: info@adiss-afiss.com
Version: 082108_124807

### Trip Information:
- **Trip #:** 184
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/21/2008 06:10:27
- **Init Aft Draft:** 18.45 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Time:** 8/21/2008 08:46:07
  - **Lat:** 42.429520
  - **Long:** -70.578909
  - **Aft Draft:** 18.45 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **Time:** 8/21/2008 08:46:34
  - **Lat:** 42.430552
  - **Long:** -70.578909
  - **Aft Draft:** 10.75 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Material Information:
- **Material Source:** Unknown
- **Material Description:** Unknown

### Wave Information:
- **Wave Height:** 0.7 ft
- **Dominant Wave Period:** Not Avail.
- **NOAA Station:** 44013

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

Version: 082208_121337
Draft / Speed for Trip: 184 Scow: GL63

Initial Draft 18.45 ft

Placement Information:
Placement Start:
Time: 8/21/2008 08:46:07
Latitude: 42.429520
Longitude: -70.578909
Aft Draft: 18.45 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Time: 8/21/2008 08:46:34
Latitude: 42.430552
Longitude: -70.578909
Aft Draft: 10.75 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Trip Information:
Trip #: 184
Tug Name: Lemmerhirt
Captain(s): Unknown
Scow Name: GL63
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5900 cu yd
Start Time: 8/21/2008 06:10:27
Init Aft Draft: 18.45 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.
## Trip Information:

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Tug:</td>
<td>Cygnus</td>
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<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow:</td>
<td>GL65</td>
</tr>
<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>5900 cu yd</td>
</tr>
<tr>
<td>Start Time:</td>
<td>8/21/2008 19:51:37</td>
</tr>
</tbody>
</table>

| Init Aft Draft: | 20.40 ft |
| Init Fore Draft: | N/A |
| Init Aft Bin: | N/A |
| Init Fore Bin: | N/A |

## Placement Information:

| Placement End: | Time: 8/21/2008 23:11:52 | Lat: 42.432006 | Long: -70.581896 |

| Aft Draft: | 20.32 ft |
| Fore Draft: | N/A |
| Aft Bin: | N/A |
| Fore Bin: | N/A |

Material Source: Unknown  
Material Description: Unknown

Wave Information Recorded: 8/21/2008 7:51:37 PM (Local)  
Wave Height: 1.0 ft  Dominant Wave Period: 9.0 sec  
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Trip Information:

Trip #: 185
Tug Name: Cygnus
Captain(s): Unknown
Scow Name: GL65
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5900 cu yd
Start Time: 8/21/2008 19:51:37
Init Aft Draft: 20.40 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Placement Information:

Placement Start:
Time: 8/21/2008 23:11:33
Latitude: 42.431938
Longitude: -70.582733
Aft Draft: 20.32 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Time: 8/21/2008 23:11:52
Latitude: 42.432006
Longitude: -70.581896
Aft Draft: 7.40 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 082208_122141

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
Trip #: 186
Tug: Cygnus
Captain(s): Unknown
Scow: GL63
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5900 cu yd
Start Time: 8/22/2008 03:15:35

Init Aft Draft: 18.53 ft
Init Aft Bin: N/A

Placement Information:
Placement Start: 8/22/2008 06:32:24
Lat: 42.429848
Long: -70.581981
Aft Draft: 18.45 ft
Aft Bin: N/A

Placement End: 8/22/2008 06:32:37
Lat: 42.429987
Long: -70.581423
Aft Draft: 10.99 ft
Aft Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 8/22/2008 3:15:35 AM (Local)
Wave Height: 1.0 ft Dominant Wave Period: 9.0 sec NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 082208_122645

Draft / Speed for Trip: 186 Scow: GL63

**Trip Information:**
- **Trip #:** 186
- **Tug Name:** Cygnus
- **Captain(s):** Unknown
- **Scow Name:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/22/2008 03:15:35
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**
- **Placement Start:**
  - **Time:** 8/22/2008 06:32:24
  - **Latitude:** 42.429848
  - **Longitude:** -70.581981
- **Aft Draft:** 18.45 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 8/22/2008 06:32:37
  - **Latitude:** 42.429987
  - **Longitude:** -70.581423
- **Aft Draft:** 10.99 ft
- **Forward Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Data Information:**
- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 082208_122645

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 187
- Tug: Cygnus
- Captain(s): Unknown
- Scow: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/22/2008 10:47:27
- Init Aft Draft: 20.32 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start: Time: 8/22/2008 14:34:21
- Lat: 42.427979
- Long: -70.579055
- Aft Draft: 20.40 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A
- Placement End: Time: 8/22/2008 14:35:16
- Lat: 42.429844
- Long: -70.578755
- Aft Draft: 6.81 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown
Wave Information Recorded: 8/22/2008 1:45:00 PM (Local)
Wave Height: Not Avail.
Dominant Wave Period: Not Avail.
NOAA Station: Not Avail.

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 082508_113050
Draft / Speed for Trip: 187 Scow: GL65

**Trip Information:**
- **Trip #:** 187
- **Tug Name:** Cygnus
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/22/2008 10:47:27
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Material Source:** Unknown
**Material Description:** Unknown

**Data Information:**
- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**Placement Information:**
- **Placement Start:**
  - **Time:** 8/22/2008 14:34:21
  - **Latitude:** 42.427979
  - **Longitude:** -70.579055
- **Placement End:**
  - **Time:** 8/22/2008 14:35:16
  - **Latitude:** 42.429844
  - **Longitude:** -70.578755
- **Aft Draft:** 20.40 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A
- **Aft Draft:** 6.81 ft
- **Forward Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**SAIC Point of Contact:** Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
Trip #: 188
Tug: Cygnus
Captain(s): Unknown
Scow: GL63
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5900 cu yd
Start Time: 8/22/2008 22:39:20
Init Aft Draft: 18.53 ft
Init Aft Bin: N/A

Placement Information:
Placement Start Time: 8/23/2008 02:02:12
Lat: 42.424671
Long: -70.579789
Aft Draft: 18.53 ft
Aft Bin: N/A

Placement End Time: 8/23/2008 02:02:39
Lat: 42.425344
Long: -70.579936
Aft Draft: 10.91 ft
Aft Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 8/22/2008 10:12:00 PM (Local)
Wave Height: Not Avail.
Dominant Wave Period: Not Avail.
NOAA Station: Not Avail.

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
### Trip Information

- **Trip #:** 188
- **Tug Name:** Cygnus
- **Captain(s):** Unknown
- **Scow Name:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/22/2008 22:39:20
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information

- **Placement Start:**
  - **Time:** 8/23/2008 02:02:12
  - **Latitude:** 42.424671
  - **Longitude:** -70.579789
  - **Aft Draft:** 18.53 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 8/23/2008 02:02:39
  - **Latitude:** 42.425344
  - **Longitude:** -70.579936
  - **Aft Draft:** 10.91 ft
  - **Forward Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Material Information

- **Material Source:** Unknown
- **Material Description:** Unknown

### Data Information

- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 082508_143451
### Trip Information:

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<tr>
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</tr>
<tr>
<td>Scow</td>
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<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5900 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>8/23/2008 06:07:39</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>20.32 ft</td>
</tr>
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<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
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### Placement Information:

<table>
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<td>Long</td>
<td>Long</td>
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<tr>
<td>-70.577938</td>
<td>-70.577859</td>
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</table>

- **Material Source**: Unknown
- **Material Description**: Unknown
- **Wave Information Recorded**: 8/23/2008 5:07:00 AM (Local)
- **Wave Height**: Not Avail.
- **Dominant Wave Period**: Not Avail.
- **NOAA Station**: Not Avail.

**Notes**: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact**: Marc Wakeman

**Phone**: (401)847-4210

**E-mail**: info@adiss-afiss.com

**Version**: 082508_113111

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 189
- Tug Name: Cygnus
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/23/2008 06:07:39
- Init Aft Draft: 20.32 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 8/23/2008 09:29:20
  - Latitude: 42.428998
  - Longitude: -70.577938
  - Aft Draft: 20.32 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- Placement End:
  - Time: 8/23/2008 09:29:35
  - Latitude: 42.429394
  - Longitude: -70.577859
  - Aft Draft: 8.59 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 082508_113111

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

**Trip Information:**
- **Trip #:** 190
- **Tug:** Cygnus
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/23/2008 21:31:02
- **Init Aft Draft:** 18.45 ft
- **Init Aft Bin:** N/A
- **Init Fore Draft:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**
- **Placement Start:**
  - **Time:** 8/24/2008 01:02:12
  - **Lat:** 42.427797
  - **Long:** -70.576696
- **Aft Draft:** 18.53 ft
- **Aft Bin:** N/A
- **Fore Draft:** N/A
- **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 8/24/2008 01:03:05
  - **Lat:** 42.429217
  - **Long:** -70.576874
- **Aft Draft:** 10.83 ft
- **Aft Bin:** N/A
- **Fore Draft:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown  **Material Description:** Unknown

**Wave Information Recorded:** 8/23/2008 8:30:00 PM (Local)
- **Wave Height:** Not Avail.
- **Dominant Wave Period:** Not Avail.
- **NOAA Station:** Not Avail.

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com

Version: 082508_143510

Trip Information:

- **Trip #:** 190
- **Tug Name:** Cygnus
- **Captain(s):** Unknown
- **Scow Name:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/23/2008 21:31:02
- **Init Aft Draft:** 18.45 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

Placement Information:

- **Placement Start:**
  - **Time:** 8/24/2008 01:02:12
  - **Latitude:** 42.427797
  - **Longitude:** -70.576696
  - **Aft Draft:** 18.53 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 8/24/2008 01:03:05
  - **Latitude:** 42.429217
  - **Longitude:** -70.576874
  - **Aft Draft:** 10.83 ft
  - **Forward Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

**Material Source:** Unknown

**Material Description:** Unknown

**Data Information:**

- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com

**Version:** 082508_143510
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 191
- Tug: Cygnus
- Captain(s): Unknown
- Scow: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Start Time: 8/24/2008 05:25:38
- Init Aft Draft: 20.32 ft
- Init Aft Bin: N/A
- Init Fore Draft: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start: 8/24/2008 08:57:26
- Lat: 42.413129
- Long: -70.595150
- Aft Draft: 20.32 ft
- Aft Bin: N/A
- Fore Draft: N/A
- Fore Bin: N/A

- Placement End: 8/24/2008 08:58:11
- Lat: 42.413229
- Long: -70.593432
- Aft Draft: 7.92 ft
- Aft Bin: N/A
- Fore Draft: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 8/24/2008 6:12:00 AM (Local)
Wave Height: Not Avail.
Dominant Wave Period: Not Avail.
NOAA Station: Not Avail.

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 082508_114341

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 191 Scow: GL65

Initial Draft 20.32
Initial Disposal Speed 5.5

Placement Information:
Placement Start:
Time: 8/24/2008 08:57:26
Latitude: 42.413129
Longitude: -70.595150
Aft Draft: 20.32 ft
Forward Draft: N/A
Aft Bin: N/A
Forward Bin: N/A

Placement End:
Time: 8/24/2008 08:58:11
Latitude: 42.413229
Longitude: -70.593432
Aft Draft: 7.92 ft
Forward Draft: N/A
Aft Bin: N/A
Forward Bin: N/A

Trip Information:
Trip #: 191
Tug Name: Cygnus
Captain(s): Unknown
Scow Name: GL65
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5900 cu yd
Start Time: 8/24/2008 05:25:38
Init Aft Draft: 20.32 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.

Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Trip Information:
- Trip #: 192
- Tug: Cygnus
- Captain(s): Unknown
- Scow: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/24/2008 12:46:26
- Init Aft Draft: 18.61 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Time: 8/24/2008 16:20:17
- Lat: 42.413795
- Long: -70.590732
- Aft Draft: 18.61 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

- Time: 8/24/2008 16:20:36
- Lat: 42.413882
- Long: -70.589885
- Aft Draft: 11.63 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 8/24/2008 12:05:00 PM (Local)
Wave Height: 0.0 ft
Dominant Wave Period: 0.0 sec
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 082508_143135

Draft / Speed for Trip: 192 Scow: GL63

Trip Information:
- Trip #: 192
- Tug Name: Cygnus
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/24/2008 12:46:26
- Init Aft Draft: 18.61 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start: 8/24/2008 16:20:17
  - Latitude: 42.413795
  - Longitude: -70.590732
- Placement End: 8/24/2008 16:20:36
  - Latitude: 42.413882
  - Longitude: -70.589885
- Aft Draft: 18.61 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Data Information:
- Type: ADISSPlay Data.
- Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 082508_143135

Material Source: Unknown  Material Description: Unknown
**Trip Information:**
- Trip #: 193
- Tug: Cygnus
- Captain(s): Unknown
- Scow: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/24/2008 19:59:44
- Init Aft Draft: 20.32 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

**Placement Information:**
- Placement Start: 8/24/2008 23:01:56
  - Lat: 42.413349
  - Long: -70.593894
- Aft Draft: 20.32 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A
- Placement End: 8/24/2008 23:02:23
  - Lat: 42.413296
  - Long: -70.592802
- Aft Draft: 7.33 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 8/24/2008 7:27:00 PM (Local)  
**Wave Height:** 0.0 ft  
**Dominant Wave Period:** 0.0 sec  
**NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 082508_143150
### Trip Information

- **Trip #:** 193
- **Tug Name:** Cygnus
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/24/2008 19:59:44
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information

- **Placement Start:**
  - **Time:** 8/24/2008 23:01:56
  - **Latitude:** 42.413349
  - **Longitude:** -70.593894
  - **Aft Draft:** 20.32 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 8/24/2008 23:02:23
  - **Latitude:** 42.413296
  - **Longitude:** -70.592802
  - **Aft Draft:** 7.33 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Material Source:
- **Unknown**

### Material Description:
- **Unknown**

### Data Information:

- **Type:** ADISSPlay Data.
- **Notes:**
  
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

### SAIC Point of Contact:

- **Marc Wakeman**
- **Phone:** (401) 847-4210
- **E-mail:** info@adiss-afiss.com

---

**Version:** 082508_143150
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 194
- Tug: Cygnus
- Captain(s): Unknown
- Scow: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/25/2008 03:13:37
- Init Aft Draft: 18.53 ft
- Init Aft Bin: N/A

Placement Information:
- Placement Start: 8/25/2008 07:12:17
- Lat: 42.428457
- Long: -70.577641
- Aft Draft: 18.53 ft
- Aft Bin: N/A
- Placement End: 8/25/2008 07:12:40
- Lat: 42.429164
- Long: -70.577792
- Aft Draft: 10.44 ft
- Aft Bin: N/A

Material Source: Unknown
Material Description: Unknown
Wave Information Recorded: 8/25/2008 2:51:00 AM (Local)
Wave Height: 0.0 ft
Dominant Wave Period: 0.0 sec
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 082508_143528
Trip Information:
- Trip #: 194
- Tug Name: Cygnus
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/25/2008 03:13:37
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 8/25/2008 07:12:17
  - Latitude: 42.428457
  - Longitude: -70.577641
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 8/25/2008 07:12:40
  - Latitude: 42.429164
  - Longitude: -70.577792
  - Aft Draft: 10.44 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 082508_143528
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 195
- Tug: Cygnus
- Captain(s): Unknown
- Scow: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/25/2008 10:07:46

Placement Information:
  - Lat: 42.413370
  - Long: -70.592248
  - Lat: 42.413351
  - Long: -70.591485

Init Aft Draft: 20.40 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Aft Draft: 20.40 ft
Aft Bin: N/A

Fore Draft: N/A
Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 8/25/2008 10:25:00 AM (Local)
Wave Height: 2.0 ft
Dominant Wave Period: 8.0 sec
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 082608_100254

Draft / Speed for Trip: 195 Scow: GL65

Initial Draft 20.40

Initial Disposal Speed 6.2

Trip Information
- Trip #: 195
- Tug Name: Cygnus
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/25/2008 10:07:46
- Init Aft Draft: 20.40 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 8/25/2008 13:47:01
  - Latitude: 42.413370
  - Longitude: -70.592248
  - Aft Draft: 20.40 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Latitude: 42.413351
  - Longitude: -70.591485
  - Aft Draft: 7.85 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 082608_100254
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>Tug</th>
<th>Captain(s)</th>
<th>Scow</th>
<th>Type</th>
<th>Technique</th>
<th>Bin Volume</th>
<th>Start Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>196</td>
<td>Cygnus</td>
<td>Unknown</td>
<td>GL63</td>
<td>Split Hull Scow</td>
<td>Bottom Dump</td>
<td>3900 cu yd</td>
<td>8/25/2008 18:49:19</td>
</tr>
</tbody>
</table>

Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lat: 42.413391</td>
<td>Lat: 42.413533</td>
</tr>
<tr>
<td>Long: -70.590633</td>
<td>Long: -70.589477</td>
</tr>
</tbody>
</table>

Init Aft Draft: 17.74 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Aft Draft: 17.50 ft
Aft Bin: N/A
Fore Draft: N/A
Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 8/25/2008 6:40:00 PM (Local)
Wave Height: 2.0 ft Dominant Wave Period: 13.0 sec NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 082608_100610

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 196 Scow: GL63

Initial Draft 17.74
Initial Disposal Speed 6.9

25 Mon Aug 2008

LEGEND: Transit Placement Return Transit

Trip Information

<table>
<thead>
<tr>
<th>Trip #</th>
<th>196</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug Name</td>
<td>Cygnus</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow Name</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>3900 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>8/25/2008 18:49:19</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>17.74 ft</td>
</tr>
<tr>
<td>Init Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Placement Information

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latitude</td>
<td>42.413391</td>
</tr>
<tr>
<td>Longitude</td>
<td>-70.590633</td>
</tr>
<tr>
<td>Aft Draft</td>
<td>17.50 ft</td>
</tr>
<tr>
<td>Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Aft Bin</td>
<td>N/A</td>
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<tr>
<td>Fore Bin</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Material Source: Unknown Material Description: Unknown

Data Information:

Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman Phone: (401)847-4210 E-mail: info@adiss-afiss.com
Version: 082608_100610
### Trip Information:
- **Trip #:** 197
- **Tug:** Cygnus
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 0 cu yd
- **Start Time:** 8/27/2008 23:20:07
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:**
  - Time: 8/28/2008 02:08:24
  - Lat: 42.413156
  - Long: -70.595376
- **Aft Draft:** 20.32 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A
- **Placement End:**
  - Time: 8/28/2008 02:08:43
  - Lat: 42.413146
  - Long: -70.594456
- **Aft Draft:** 8.22 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

### Material Source:
- Unknown

### Material Description:
- Unknown

### Wave Information Recorded:
- **Date:** 8/27/2008 11:20:07 PM (Local)
- **Wave Height:** 1.3 ft
- **Dominant Wave Period:** 13.0 sec
- **NOAA Station:** 44013

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Trip Information

- **Trip #:** 197
- **Tug Name:** Cygnus
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Bin Volume:** 0 cu yd
- **Start Time:** 8/27/2008 23:20:07
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A
- **Material Source:** Unknown
- **Material Description:** Unknown

Placement Information:

- **Placement Start:**
  - **Time:** 8/28/2008 02:08:24
  - **Latitude:** 42.413156
  - **Longitude:** -70.595376
- **Aft Draft:** 20.32 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 8/28/2008 02:08:43
  - **Latitude:** 42.413146
  - **Longitude:** -70.594456
- **Aft Draft:** 8.22 ft
- **Forward Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

Data Information:
- **Type:** ADISSPlay Data.
- **Notes:**
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 082908_115357
### Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>198</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug</td>
<td>Cygnus</td>
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<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5700 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>8/28/2008 05:28:58</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>18.53 ft</td>
</tr>
<tr>
<td>Init Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
<td>N/A</td>
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</tbody>
</table>

### Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time: 8/28/2008 09:02:52</td>
<td>Time: 8/28/2008 09:03:07</td>
</tr>
<tr>
<td>Lat: 42.413471</td>
<td>Lat: 42.413613</td>
</tr>
<tr>
<td>Long: -70.593764</td>
<td>Long: -70.593135</td>
</tr>
<tr>
<td>Aft Draft: 18.53 ft</td>
<td>Aft Draft: 11.78 ft</td>
</tr>
<tr>
<td>Fore Draft: N/A</td>
<td>Fore Draft: N/A</td>
</tr>
<tr>
<td>Aft Bin: N/A</td>
<td>Aft Bin: N/A</td>
</tr>
<tr>
<td>Fore Bin: N/A</td>
<td>Fore Bin: N/A</td>
</tr>
</tbody>
</table>

Material Source: Unknown  
Material Description: Unknown

Wave Information Recorded: 8/28/2008 5:05:00 AM (Local)
Wave Height: 1.0 ft  Dominant Wave Period: 13.0 sec  NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
### Trip Information

<table>
<thead>
<tr>
<th>Trip #:</th>
<th>198</th>
</tr>
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<tbody>
<tr>
<td>Tug Name:</td>
<td>Cygnus</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow Name:</td>
<td>GL63</td>
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<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>5700 cu yd</td>
</tr>
<tr>
<td>Start Time :</td>
<td>8/28/2008 05:28:58</td>
</tr>
</tbody>
</table>

- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:

- **Placement Start:**
  - **Time:** 8/28/2008 09:02:52
  - **Latitude:** 42.413471
  - **Longitude:** -70.593764
- **Placement End:**
  - **Time:** 8/28/2008 09:03:07
  - **Latitude:** 42.413613
  - **Longitude:** -70.593135

- **Aft Draft:** 18.53 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

### Data Information:

- **Type:** ADISS Play Data.
- **Notes:**
  
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

[SAIC Point of Contact: Marc Wakeman | Phone: (401)847-4210 | E-mail: info@adiss-afiss.com]

Version: 082908_115341

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104057,104071,104089,10... 9/2/2008
## Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>199</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug</td>
<td>Cygnus</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL65</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5900 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>8/28/2008 11:38:02</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>20.40 ft</td>
</tr>
<tr>
<td>Init Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
<td>N/A</td>
</tr>
</tbody>
</table>

## Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lat: 42.413603</td>
<td>Lat: 42.413581</td>
</tr>
<tr>
<td>Long: -70.592043</td>
<td>Long: -70.591449</td>
</tr>
<tr>
<td>Aft Draft: 20.40 ft</td>
<td>Aft Draft: 8.29 ft</td>
</tr>
<tr>
<td>Fore Draft: N/A</td>
<td>Fore Draft: N/A</td>
</tr>
<tr>
<td>Aft Bin: N/A</td>
<td>Aft Bin: N/A</td>
</tr>
<tr>
<td>Fore Bin: N/A</td>
<td>Fore Bin: N/A</td>
</tr>
</tbody>
</table>

Material Source: Unknown  
Material Description: Unknown  
Wave Information Recorded: 8/28/2008 11:59:00 AM (Local)  
Wave Height: 1.3 ft  
Dominant Wave Period: 11.0 sec  
NOAA Station: 44013  

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

### Trip Information

- **Trip #:** 199
- **Tug Name:** Cygnus
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/28/2008 11:38:02
- **Init Aft Draft:** 20.40 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information

- **Placement Start:**
  - **Time:** 8/28/2008 15:30:00
  - **Latitude:** 42.413603
  - **Longitude:** -70.592043
  - **Aft Draft:** 20.40 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 8/28/2008 15:30:13
  - **Latitude:** 42.413581
  - **Longitude:** -70.591449
  - **Aft Draft:** 8.29 ft
  - **Forward Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Material Information

- **Source:** Unknown
- **Description:** Unknown

### Data Information

- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 082908_115122
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 200
- Tug: Cygnus
- Captain(s): Unknown
- Scow: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/28/2008 19:40:06
- Init Aft Draft: N/A
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start: 8/29/2008 00:04:20
- Lat: 42.413682
- Long: -70.590441
- Aft Draft: N/A
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A
- Placement End: 8/29/2008 00:04:43
- Lat: 42.413894
- Long: -70.589692

Material Source: Unknown
Material Description: Unknown
Wave Information Recorded: 8/28/2008 7:20:00 PM (Local)
Wave Height: 3.0 ft
Dominant Wave Period: 5.0 sec
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

Draft / Speed for Trip: 200 Scow: GL63

Initial Draft 18.53

Initial Disposal Speed 5.2

28 Thu Aug 2008

Trip Information

<table>
<thead>
<tr>
<th>Trip #</th>
<th>200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug Name:</td>
<td>Cygnus</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow Name:</td>
<td>GL63</td>
</tr>
<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>5900 cu yd</td>
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<tr>
<td>Start Time:</td>
<td>8/28/2008 19:40:06</td>
</tr>
<tr>
<td>Init Aft Draft:</td>
<td>18.53 ft</td>
</tr>
<tr>
<td>Init Fore Draft:</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Aft Bin:</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin:</td>
<td>N/A</td>
</tr>
<tr>
<td>Material Source:</td>
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<tr>
<td>Material Description:</td>
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</tr>
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Placement Information:

<table>
<thead>
<tr>
<th>Placement Start:</th>
<th>Placement End:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time: 8/29/2008 00:04:20</td>
<td>Time: 8/29/2008 00:04:43</td>
</tr>
<tr>
<td>Latitude: 42.413682</td>
<td>Latitude: 42.413894</td>
</tr>
<tr>
<td>Longitude: -70.590441</td>
<td>Longitude: -70.589692</td>
</tr>
<tr>
<td>Aft Draft: 18.45 ft</td>
<td>Aft Draft: 11.78 ft</td>
</tr>
<tr>
<td>Fore Draft: N/A</td>
<td>Forward Draft: N/A</td>
</tr>
<tr>
<td>Aft Bin: N/A</td>
<td>Aft Bin: N/A</td>
</tr>
<tr>
<td>Fore Bin: N/A</td>
<td>Fore Bin: N/A</td>
</tr>
</tbody>
</table>

Data Information:

Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 082908_114807
### Trip Information:

- **Trip #:** 201
- **Tug:** Cygnus
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/29/2008 04:09:18
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:

- **Placement Start:**
  - **Time:** 8/29/2008 07:38:30
  - **Lat:** 42.413007
  - **Long:** -70.594895
- **Aft Draft:** 20.32 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 8/29/2008 07:39:09
  - **Lat:** 42.413119
  - **Long:** -70.593128
- **Aft Draft:** 7.77 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

---

**Material Source:** Unknown  **Material Description:** Unknown

**Wave Information Recorded:** 8/29/2008 4:04:00 AM (Local)

**Wave Height:** 2.6 ft  **Dominant Wave Period:** 6.0 sec  **NOAA Station:** 44013

---

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
### Draft / Speed for Trip: 201 Scow: GL65

#### Trip Information:
- **Trip #:** 201
- **Tug Name:** Cygnus
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/29/2008 04:09:18
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A
- **Material Source:** Unknown
- **Material Description:** Unknown

#### Placement Information:
- **Time:** 8/29/2008 07:38:30
- **Latitude:** 42.413007
- **Longitude:** -70.594895
- **Aft Draft:** 20.32 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Time:** 8/29/2008 07:39:09
- **Latitude:** 42.413119
- **Longitude:** -70.593128
- **Aft Draft:** 7.77 ft
- **Forward Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

### Data Information:
- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 082908_114441
### Trip Information:

- **Trip #:** 202
- **Tug:** Cygnus
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/29/2008 17:26:53
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A
- **Material Source:** Unknown
- **Material Description:** Unknown

### Placement Information:

- **Placement Start:**
  - **Time:** 8/29/2008 21:21:33
  - **Lat:** 42.422883
  - **Long:** -70.581269
  - **Aft Draft:** 18.53 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 8/29/2008 21:21:46
  - **Lat:** 42.423181
  - **Long:** -70.581115
  - **Aft Draft:** 12.18 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Wave Information Recorded:

- **Date:** 8/29/2008 4:54:00 PM (Local)
- **Wave Height:** 3.0 ft
- **Dominant Wave Period:** 6.0 sec
- **NOAA Station:** 44013

### Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 090208_143141
Trip Information:
- Trip #: 202
- Tug Name: Cygnus
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/29/2008 17:26:53
  - Init Aft Draft: 18.53 ft
  - Init Fore Draft: N/A
  - Init Aft Bin: N/A
  - Init Fore Bin: N/A

Placement Information:
- Placement Start:
  -Latitude: 42.422883
  -Longitude: -70.581269
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Latitude: 42.423181
  - Longitude: -70.581115
  - Aft Draft: 12.18 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 090208_143141
**Trip Information:**

<table>
<thead>
<tr>
<th>Trip #</th>
<th>203</th>
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<tbody>
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<tr>
<td>Captain(s)</td>
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<td>Scow</td>
<td>GL65</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5900 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>8/30/2008 01:51:54</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>20.32 ft</td>
</tr>
<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Draft</td>
<td>N/A</td>
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**Placement Information:**

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
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</thead>
<tbody>
<tr>
<td>8/30/2008 05:47:59</td>
<td>8/30/2008 05:48:12</td>
</tr>
<tr>
<td>Lat:</td>
<td>42.413213</td>
</tr>
<tr>
<td>Long:</td>
<td>-70.592348</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>20.32 ft</td>
</tr>
<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Draft</td>
<td>N/A</td>
</tr>
</tbody>
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**Material Source:** Unknown

**Material Description:** Unknown

**Wave Information Recorded:** 8/30/2008 1:03:00 AM (Local)

**Wave Height:** 3.6 ft  **Dominant Wave Period:** 10.0 sec  **NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com

**Version:** 090208_143234
### Draft / Speed for Trip: 203 Scow: GL65

**Trip Information**
- **Trip #:** 203
- **Tug Name:** Cygnus
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/30/2008 01:51:54
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Placement Information**
- **Placement Start:**
  - **Time:** 8/30/2008 05:47:59
  - **Latitude:** 42.413213
  - **Longitude:** -70.592348
  - **Aft Draft:** 20.32 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 8/30/2008 05:48:12
  - **Latitude:** 42.413260
  - **Longitude:** -70.591916
  - **Aft Draft:** 7.99 ft
  - **Forward Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

**Data Information**
- **Type:** ADISSPlay Data.
- **Notes:**
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

---

**2008 Boston Harbor Maintenance Dredging**  
**W912WJ-07-C-0023**

[Website Link](http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104119,104120,104133,104134,1...)
**Trip Information:**

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<tr>
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<th>204</th>
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<tbody>
<tr>
<td>Tug:</td>
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<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow:</td>
<td>GL63</td>
</tr>
<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>5900 cu yd</td>
</tr>
<tr>
<td>Start Time:</td>
<td>8/30/2008 11:40:47</td>
</tr>
</tbody>
</table>

Init Aft Draft: 18.53 ft  
Init Fore Draft: N/A  
Init Aft Bin: N/A  
Init Fore Bin: N/A  

**Placement Information:**

<table>
<thead>
<tr>
<th>Placement Start:</th>
<th>Placement End:</th>
</tr>
</thead>
</table>

Aft Draft: 18.53 ft  
Fore Draft: N/A  
Aft Bin: N/A  
Fore Bin: N/A  

Material Source: Unknown  
Material Description: Unknown  

Wave Information Recorded: 8/30/2008 10:55:00 AM (Local)  
Wave Height: 2.6 ft  
Dominant Wave Period: 8.0 sec  
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  
Phone: (401)847-4210  
E-mail: info@adiss-afiss.com  
Version: 090208_143300

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104119,104120,104133,104134,1...  
9/3/2008
Draft / Speed for Trip: 204 Scow: GL63

Trip Information:
- Trip #: 204
- Tug Name: Cygnus
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/30/2008 11:40:47
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Placement Information:
- Placement Start:
  - Time: 8/30/2008 15:04:39
  - Latitude: 42.413477
  - Longitude: -70.593539
  - Aft Draft: 18.53 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- Placement End:
  - Time: 8/30/2008 15:05:06
  - Latitude: 42.413428
  - Longitude: -70.592608
  - Aft Draft: 11.86 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 090208_143300

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:

- **Trip #:** 205
- **Tug:** Cygnus
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/30/2008 20:12:11
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

Placement Information:

- **Placement Start:** 8/30/2008 23:38:53
  - **Lat:** 42.412905
  - **Long:** -70.594602
  - **Aft Draft:** 20.32 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **Placement End:** 8/30/2008 23:39:14
  - **Lat:** 42.413117
  - **Long:** -70.593703
  - **Aft Draft:** 8.14 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded:
- **Wave Height:** 2.3 ft
- **Dominant Wave Period:** 9.0 sec
- **NOAA Station:** 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 090208_143317

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104119,104120,104133,104134,1... Pages: 1/20
Draft / Speed for Trip: 205 Scow: GL65

Trip Information:
- Trip #: 205
- Tug Name: Cygnus
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/30/2008 20:12:11
- Init Aft Draft: 20.32 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 8/30/2008 23:38:53
  - Latitude: 42.412905
  - Longitude: -70.594602
  - Aft Draft: 20.32 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 8/30/2008 23:39:14
  - Latitude: 42.413117
  - Longitude: -70.593703
  - Aft Draft: 8.14 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 090208 143317

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023
**Trip Information:**

- **Trip #:** 206
- **Tug:** Cygnus
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 8/31/2008 02:37:53

**Placement Information:**

- **Placement Start Time:** 8/31/2008 07:03:51
- **Lat:** 42.425805
- **Long:** -70.582684
- **Aft Draft:** 18.53 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Placement End Time:** 8/31/2008 07:04:12
- **Lat:** 42.426219
- **Long:** -70.582844
- **Aft Draft:** 11.94 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 8/31/2008 2:54:00 AM (Local)

- **Wave Height:** 1.3 ft
- **Dominant Wave Period:** 9.0 sec
- **NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 090208_143202

---

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104119,104120,104133,104134,1...
Trip Information:
- Trip #: 206
- Tug Name: Cygnus
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/31/2008 02:37:53
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 8/31/2008 07:03:51
  - Latitude: 42.425805
  - Longitude: -70.582684
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 8/31/2008 07:04:12
  - Latitude: 42.426219
  - Longitude: -70.582844
  - Aft Draft: 11.94 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Data Information:
- Type: ADISSPlay Data.
- Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 090208_143202
### Trip Information:

<table>
<thead>
<tr>
<th>Trip Information:</th>
<th>Placement Information:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trip #:</td>
<td>Placement Start:</td>
</tr>
<tr>
<td>207</td>
<td>Time: 8/31/2008</td>
</tr>
<tr>
<td>Tug: Cygnus</td>
<td>Time: 8/31/2008</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>15:35:53</td>
</tr>
<tr>
<td>Unknown</td>
<td>15:36:14</td>
</tr>
<tr>
<td>Scow: GL65</td>
<td>Lat: 42.413436</td>
</tr>
<tr>
<td>Type: Split Hull Scow</td>
<td>Long: -70.593858</td>
</tr>
<tr>
<td>Technique: Bottom Dump</td>
<td></td>
</tr>
<tr>
<td>Bin Volume: 5900 cu yd</td>
<td></td>
</tr>
<tr>
<td>Start Time: 8/31/2008 12:25:11</td>
<td></td>
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<tr>
<td>Init Aft Draft: 20.40 ft</td>
<td>Aft Draft: 20.40 ft</td>
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<tr>
<td>Init Fore Draft: N/A</td>
<td>Fore Draft: N/A</td>
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<td>Init Aft Bin: N/A</td>
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<td>Init Fore Bin: N/A</td>
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<tr>
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<td>Material Description: Unknown</td>
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<tr>
<td>Wave Information Recorded: 8/31/2008 12:04:00 PM (Local)</td>
<td>Wave Height: 2.3 ft Dominant Wave Period: 8.0 sec NOAA Station: 44013</td>
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</tbody>
</table>

### Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 090208_143349

---

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 207 Scow: GL65

Trip Information:
- Trip #: 207
- Tug Name: Cygnus
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 8/31/2008 12:25:11
- Init Aft Draft: 20.40 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Placement Information:
- Placement Start:
  - Time: 8/31/2008 15:35:53
  - Latitude: 42.413436
  - Longitude: -70.593858
  - Aft Draft: 20.40 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 8/31/2008 15:36:14
  - Latitude: 42.413577
  - Longitude: -70.592924
  - Aft Draft: 9.03 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 090208_143349

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104119,104120,104133,104134,1...
### Trip Information:

<table>
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<tr>
<td>Tug</td>
<td>Cygnus</td>
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<tr>
<td>Captain(s)</td>
<td>Unknown</td>
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<tr>
<td>Scow</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5600 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>8/31/2008 22:48:05</td>
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</tbody>
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### Placement Information:

<table>
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<tr>
<th>Placement Start</th>
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<tbody>
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<tr>
<td>9/1/2008</td>
<td>9/1/2008</td>
</tr>
<tr>
<td>02:27:50</td>
<td>02:28:13</td>
</tr>
</tbody>
</table>

| Init Aft Draft | 18.53 ft |
| Init Fore Draft | N/A |
| Init Aft Bin   | N/A |
| Init Fore Bin  | N/A |

| Aft Draft | 18.53 ft |
| Fore Draft | N/A |
| Aft Bin   | N/A |
| Fore Bin  | N/A |

Material Source: Unknown  
Material Description: Unknown

Wave Information Recorded: 8/31/2008 10:23:00 PM (Local)

Wave Height: 1.3 ft Dominant Wave Period: 3.0 sec NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

### SAIC Point of Contact:

Marc Wakeman  
Phone: (401)847-4210  
E-mail: info@adiss-afiss.com

Version: 090208_143431

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104119,104120,104133,104134,1...
Trip Information:

- Trip #: 208
- Tug Name: Cygnus
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd
- Start Time: 8/31/2008 22:48:05
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:

- Placement Start:
  - Time: 9/1/2008 02:27:50
  - Latitude: 42.413302
  - Longitude: -70.592052
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- Placement End:
  - Time: 9/1/2008 02:28:13
  - Latitude: 42.413451
  - Longitude: -70.591324
  - Aft Draft: 12.66 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:

Type: ADISSPlay Data.
Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 090208_143431
**Trip Information:**

<table>
<thead>
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<tbody>
<tr>
<td>Tug:</td>
<td>Cygnus</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
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<tr>
<td>Scow:</td>
<td>GL65</td>
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<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
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<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
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<tr>
<td>Bin Volume:</td>
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<tr>
<td>Start Time:</td>
<td>9/1/2008 07:24:11</td>
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<tr>
<td>Init Aft Draft</td>
<td>20.32 ft</td>
</tr>
<tr>
<td>Init Fore Draft</td>
<td>N/A</td>
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<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Placement Information:**

| Lat:             | 42.413108 |
| Long:            | -70.595023 |
| Aft Draft:       | 20.32 ft |
| Fore Draft:      | N/A |
| Aft Bin:         | N/A |
| Fore Bin:        | N/A |

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 9/1/2008 6:54:00 AM (Local)  
**Wave Height:** 2.3 ft  
**Dominant Wave Period:** 3.0 sec  
**NOAA Station:** 44013

---

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 090208_143452

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http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104119,104120,104133,104134,1...  
9/3/2008
Trip Information:

- Trip #: 209
- Tug Name: Cygnus
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 9/1/2008 07:24:11
- Init Aft Draft: 20.32 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:

- Placement Start:
  - Time: 9/1/2008 10:33:28
  - Latitude: 42.413108
  - Longitude: -70.595023
  - Aft Draft: 20.32 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- Placement End:
  - Time: 9/1/2008 10:33:47
  - Latitude: 42.413229
  - Longitude: -70.594231
  - Aft Draft: 9.25 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown  
Material Description: Unknown

Data Information:

- Type: ADISSPlay Data.
- Notes:
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  
Phone: (401)847-4210  
E-mail: info@adiss-afiss.com

Version: 090208_143452

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104119,104120,104133,104134,1...
**Trip Information:**

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<tbody>
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<td><strong>Tug:</strong></td>
<td>Cygnus</td>
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<tr>
<td><strong>Captain(s):</strong></td>
<td>Unknown</td>
</tr>
<tr>
<td><strong>Scow:</strong></td>
<td>GL63</td>
</tr>
<tr>
<td><strong>Type:</strong></td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td><strong>Technique:</strong></td>
<td>Bottom Dump</td>
</tr>
<tr>
<td><strong>Bin Volume:</strong></td>
<td>5900 cu yd</td>
</tr>
<tr>
<td><strong>Start Time:</strong></td>
<td>9/1/2008 15:46:04</td>
</tr>
<tr>
<td><strong>Init Aft Draft:</strong></td>
<td>18.61 ft</td>
</tr>
<tr>
<td><strong>Init Fore Draft:</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Init Aft Bin:</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Init Fore Bin:</strong></td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Placement Information:**

| Placement Start: | 9/1/2008 19:50:56 |
| Lat: | 42.413143 |
| Long: | -70.593746 |
| **Aft Draft:** | 18.61 ft |
| **Fore Draft:** | N/A |
| **Aft Bin:** | N/A |
| **Fore Bin:** | N/A |

| Placement End: | 9/1/2008 19:51:25 |
| Lat: | 42.413328 |
| Long: | -70.592762 |
| **Aft Draft:** | 11.23 ft |
| **Fore Draft:** | N/A |
| **Aft Bin:** | N/A |
| **Fore Bin:** | N/A |

- **Material Source:** Unknown
- **Material Description:** Unknown

**Wave Information Recorded:** 9/1/2008 4:18:00 PM (Local)

- **Wave Height:** 1.6 ft
- **Dominant Wave Period:** 11.0 sec
- **NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target. GPS data is unavailable between 7:48pm(local) 9/1/08 and 8:50am(local) 9/2/08. At 8:50am(local) 9/2/08 SAIC contacted the Inspector aboard the Tug Cygnus in relation to the unavailable GPS data. SAIC remotely reset the cellular/GPS modem at 8:50am(local) 9/2/08.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 090208_144431

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104119,104120,104133,104134,104135
Trip Information:
- Trip #: 210
- Tug Name: Cygnus
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 9/1/2008 15:46:04
- Initial Aft Draft: 18.61 ft
- Initial Fore Draft: N/A
- Initial Aft Bin: N/A
- Initial Fore Bin: N/A
- Material Source: Unknown
- Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target. GPS data is unavailable between 7:48pm (local) 9/1/2008 and 8:50am (local) 9/2/08. At 8:50am (local) 9/2/08 SAIC contacted the Inspector aboard the Tug Cygnus in relation to the unavailable GPS data. SAIC remotely reset the cellular/GPS modem at 8:50am (local) 9/2/08.

Placement Information:
- Placement Start:
  - Time: 9/1/2008 19:50:56
  - Latitude: 42.413143
  - Longitude: -70.593746
- Placement End:
  - Time: 9/1/2008 19:51:25
  - Latitude: 42.413328
  - Longitude: -70.592762
- Aft Draft: 18.61 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Initial Draft: 18.61 ft
Initial Disposal Speed: 5.2 knots

Material Source: Unknown
Material Description: Unknown

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 090208_144431

2008 Boston Harbor Maintenance Dredging
**W912WJ-07-C-0023**

<table>
<thead>
<tr>
<th>Trip Information:</th>
<th>Placement Information:</th>
</tr>
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<tbody>
<tr>
<td>Trip #: 211</td>
<td>Placement Start: 9/2/2008 Time: 05:04:58</td>
</tr>
<tr>
<td>Tug: Cygnus</td>
<td>Placement End: 9/2/2008 Time: 05:05:49</td>
</tr>
<tr>
<td>Captain(s): Unknown</td>
<td></td>
</tr>
<tr>
<td>Scow: GL65</td>
<td></td>
</tr>
<tr>
<td>Type: Split Hull Scow</td>
<td></td>
</tr>
<tr>
<td>Technique: Bottom Dump</td>
<td></td>
</tr>
<tr>
<td>Bin Volume: 5900 cu yd</td>
<td></td>
</tr>
<tr>
<td>Start Time: 9/2/2008 02:01:46</td>
<td></td>
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<tr>
<td>Init Aft Draft: 20.32 ft</td>
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<tr>
<td>Init Fore Draft: N/A</td>
<td>Fore Draft: N/A Fore Draft: N/A</td>
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<td>Init Fore Bin: N/A</td>
<td>Fore Bin: N/A Fore Bin: N/A</td>
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**Material Source:** Unknown  **Material Description:** Unknown

**Wave Information Recorded:** 9/2/2008 1:41:00 AM (Local)

**Wave Height:** 1.6 ft  **Dominant Wave Period:** 11.0 sec  **NOAA Station:** 44013

---

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com

**Version:** 090208_143512
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 211 Scow: GL65

<table>
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<th>Trip Information</th>
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<tbody>
<tr>
<td>Trip #: 211</td>
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<tr>
<td>Tug Name: Cygnus</td>
<td>Time: 9/2/2008 05:04:58</td>
</tr>
<tr>
<td>Captain(s): Unknown</td>
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<td>Scow Name: GL65</td>
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<tr>
<td>Technique: Bottom Dump</td>
<td>Fore Draft: N/A</td>
</tr>
<tr>
<td>Bin Volume: 5900 cu yd</td>
<td>Aft Bin: N/A</td>
</tr>
<tr>
<td>Start Time: 9/2/2008 02:01:46</td>
<td>Fore Bin: N/A</td>
</tr>
<tr>
<td>Init Aft Draft: 20.32 ft</td>
<td></td>
</tr>
<tr>
<td>Init Fore Draft: N/A</td>
<td></td>
</tr>
<tr>
<td>Init Aft Bin: N/A</td>
<td></td>
</tr>
<tr>
<td>Init Fore Bin: N/A</td>
<td></td>
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</tbody>
</table>

Initial Draft: 20.32
Initial Disposal Speed: 6.6

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  Email: info@adiss-afiss.com
Version: 090208_143512

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 212
- Tug: Cygnus
- Captain(s): Unknown
- Scow: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 9/2/2008 12:08:30
- Init Aft Draft: 18.61 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start: 9/2/2008 16:21:02
  - Lat: 42.413012
  - Long: -70.595090
  - Aft Draft: 18.61 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End: 9/2/2008 16:21:17
  - Lat: 42.413102
  - Long: -70.594575
  - Aft Draft: 11.63 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown
Wave Information Recorded: 9/2/2008 11:45:00 AM (Local)
Wave Height: 3.3 ft
Dominant Wave Period: 4.0 sec
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target. Horizontal positioning data is unavailable prior to 9/2/2008 8:50:16 AM (Local) due to the GPS antenna losing satellite signal. SAIC remotely accessed the ADISS tracking system onboard the GL63 at approximately 8:45 AM on 9/2/08 in order to re-initialize the GPS. After the re-initialization, horizontal positioning data started to be collected normally.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 090308_151216
Trip Information

- **Trip #**: 212
- **Tug Name**: Cygnus
- **Captain(s)**: Unknown
- **Scow Name**: GL63
- **Type**: Split Hull Scow
- **Technique**: Bottom Dump
- **Bin Volume**: 5900 cu yd
- **Start Time**: 9/2/2008 12:08:30
- **Init Aft Draft**: 18.61 ft
- **Init Fore Draft**: N/A
- **Init Aft Bin**: N/A
- **Init Fore Bin**: N/A

**Material Source**: Unknown  
**Material Description**: Unknown

Placement Information:

- **Placement Start**:
  - **Time**: 9/2/2008 16:21:02
  - **Latitude**: 42.413012
  - **Longitude**: -70.595090
  - **Aft Draft**: 18.61 ft
  - **Fore Draft**: N/A
  - **Aft Bin**: N/A
  - **Fore Bin**: N/A

- **Placement End**:
  - **Time**: 9/2/2008 16:21:17
  - **Latitude**: 42.413102
  - **Longitude**: -70.594575
  - **Aft Draft**: 11.63 ft
  - **Fore Draft**: N/A
  - **Aft Bin**: N/A
  - **Fore Bin**: N/A

**Data Information**:

- **Type**: ADISSPlay Data.
- **Notes**: SAIC designated placement locations illustrate a successful placement of material in disposal site target. Horizontal positioning data is unavailable prior to 9/2/2008 8:50:16 AM (Local) due to the GPS antenna losing satellite signal. SAIC remotely accessed the ADISS tracking system onboard the GL63 at approximately 8:45 AM on 9/2/08 in order to re-initialize the GPS. After the re-initialization, horizontal positioning data started to be collected normally.

**SAIC Point of Contact**: Marc Wakeman  
**Phone**: (401)847-4210  
**E-mail**: info@adiss-afiss.com

Version: 090308_151216
### Trip Information:
- **Trip #:** 213
- **Tug:** Cygnus
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 0 cu yd
- **Start Time:** 9/3/2008 01:30:50
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:**
  - **Time:** 9/3/2008 04:14:51
  - **Lat:** 42.429385
  - **Long:** -70.581902
  - **Aft Draft:** 20.32 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 9/3/2008 04:15:06
  - **Lat:** 42.429448
  - **Long:** -70.581134
  - **Aft Draft:** 8.07 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Material Source:** Unknown
- **Material Description:** Unknown
- **Wave Information Recorded:** N/A (Local)
- **Wave Height:** Not Avail.
- **Dominant Wave Period:** Not Avail.
- **NOAA Station:** Not Avail.

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

Version: 090408_140521
Draft / Speed for Trip: 213 Scow: GL65

<table>
<thead>
<tr>
<th>Trip Information</th>
<th>Placement Information:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trip #:</td>
<td>Placement Start:</td>
</tr>
<tr>
<td>Tug Name:</td>
<td>Time:</td>
</tr>
<tr>
<td>Captian(s):</td>
<td>Latitude:</td>
</tr>
<tr>
<td>Scow Name:</td>
<td>9/3/2008</td>
</tr>
<tr>
<td>Type:</td>
<td>42.429385</td>
</tr>
<tr>
<td>Technique:</td>
<td>04:14:51</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>Longitude:</td>
</tr>
<tr>
<td>Start Time:</td>
<td>-70.581902</td>
</tr>
<tr>
<td>Init Aft Draft:</td>
<td>Aft Draft:</td>
</tr>
<tr>
<td>Init Fore Draft:</td>
<td>Fore Draft:</td>
</tr>
<tr>
<td>Init Aft Bin:</td>
<td>Aft Bin:</td>
</tr>
<tr>
<td>Init Fore Bin:</td>
<td>Fore Bin:</td>
</tr>
</tbody>
</table>

| Material Source: Unknown | Material Description: Unknown |

Data Information:
Type: ADISS Play Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 090408_140521

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104225,104231,104234,10... 9/5/2008
Trip Information:

- Trip #: 214
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5600 cu yd
- Start Time: 9/3/2008
- Init Aft Draft: 18.45 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:

- Placement Start:
  - Lat: 42.418880
  - Long: -70.581809
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- Placement End:
  - Lat: 42.419383
  - Long: -70.581783
  - Aft Draft: 11.15 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 9/3/2008 10:46:00 AM (Local)
Wave Height: 4.9 ft Dominant Wave Period: 8.0 sec NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target. The hull status sensor indicated that the scow remained open throughout the return transit of load #214. The sensor went back to the closed position after returning to the dredge area.
Draft / Speed for Trip: 214 Scow: GL63

**Trip Information**

- **Trip #**: 214
- **Tug Name**: Lemmerhirt
- **Captain(s)**: Unknown
- **Scow Name**: GL63
- **Type**: Split Hull Scow
- **Technique**: Bottom Dump
- **Bin Volume**: 5600 cu yd
- **Start Time**: 9/3/2008 07:17:16
- **Init Aft Draft**: 18.45 ft
- **Init Fore Draft**: N/A
- **Init Aft Bin**: N/A
- **Init Fore Bin**: N/A

**Placement Information**:

- **Placement Start**:
  - **Latitude**: 42.418880
  - **Longitude**: -70.581809
- **Aft Draft**: 18.53 ft
- **Fore Draft**: N/A
- **Aft Bin**: N/A
- **Fore Bin**: N/A

- **Placement End**:
  - **Latitude**: 42.419383
  - **Longitude**: -70.581783
- **Aft Draft**: 11.15 ft
- **Forward Draft**: N/A
- **Aft Bin**: N/A
- **Fore Bin**: N/A

**Data Information**:

- **Type**: ADISSPlay Data.
- **Notes**: SAIC designated placement locations illustrate a successful placement of material in disposal site target. The hull status sensor indicated that the scow remained open throughout the return transit of load #214. The sensor went back to the closed position after returning to the dredge area.

**SAIC Point of Contact**: Marc Wakeman  
**Phone**: (401)847-4210  
**E-mail**: info@adiss-afiss.com

---

2008 Boston Harbor Maintenance Dredging

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104225,104231,104234,10...  
9/5/2008
**Trip Information:**

- **Trip #:** 215
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 9/3/2008 15:49:47
- **Init Aft Draft:** 20.40 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**

- **Placement Start:**
  - Lat: 42.428696
  - Long: -70.581694
- **Placement End:**
  - Time: 9/3/2008 18:35:46
  - Lat: 42.428908
  - Long: -70.581099

**Material Source:** Unknown  **Material Description:** Unknown

**Wave Information Recorded:** 9/3/2008 8:50:00 PM (Local)

- **Wave Height:** 4.6 ft
- **Dominant Wave Period:** 8.0 sec
- **NOAA Station:** 44013

---

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com

**Version:** 090408_140446
### Draft / Speed for Trip: 215 Scow: GL65

**Initial Draft:** 20.40 ft

**Initial Disposal Speed:** 7.6

### Trip Information

<table>
<thead>
<tr>
<th><strong>Trip #</strong></th>
<th>215</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tug Name:</strong></td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td><strong>Captain(s):</strong></td>
<td>Unknown</td>
</tr>
<tr>
<td><strong>Scow Name:</strong></td>
<td>GL65</td>
</tr>
<tr>
<td><strong>Type:</strong></td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td><strong>Technique:</strong></td>
<td>Bottom Dump</td>
</tr>
<tr>
<td><strong>Bin Volume:</strong></td>
<td>5900 cu yd</td>
</tr>
<tr>
<td><strong>Start Time:</strong></td>
<td>9/3/2008 15:40:47</td>
</tr>
<tr>
<td><strong>Init Aft Draft:</strong></td>
<td>20.40 ft</td>
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<tr>
<td><strong>Init Fore Draft:</strong></td>
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<td><strong>Init Aft Bin:</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Init Fore Bin:</strong></td>
<td>N/A</td>
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</tbody>
</table>

**Material Source:** Unknown

**Material Description:** Unknown

### Placement Information

<table>
<thead>
<tr>
<th><strong>Placement Start:</strong></th>
<th><strong>Placement End:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time:</strong></td>
<td>9/3/2008 18:35:33</td>
</tr>
<tr>
<td><strong>Latitude:</strong></td>
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<tr>
<td><strong>Aft Draft:</strong></td>
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<tr>
<td><strong>Fore Draft:</strong></td>
<td>N/A</td>
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<tr>
<td><strong>Aft Bin:</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Fore Bin:</strong></td>
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<td><strong>Time:</strong></td>
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<tr>
<td><strong>Latitude:</strong></td>
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<tr>
<td><strong>Fore Bin:</strong></td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Data Information:**

- **Type:** ADISSPlay Data.
- **Notes:**

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 090408_140446
### Trip Information:
- **Trip #:** 216
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 9/3/2008 22:01:14
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:**
  - **Time:** 9/4/2008 00:41:49
  - **Lat:** 42.413381
  - **Long:** -70.593419
- **Placement End:**
  - **Time:** 9/4/2008 00:42:12
  - **Lat:** 42.413525
  - **Long:** -70.592245
  - **Aft Draft:** 18.53 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Material Information:
- **Material Source:** Unknown
- **Material Description:** Unknown
- **Wave Information Recorded:** 9/3/2008 8:58:00 PM (Local)
- **Wave Height:** 4.6 ft
- **Dominant Wave Period:** 8.0 sec
- **NOAA Station:** 44013

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 090408_140201

---

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104225,104231,104234,10...  
9/5/2008
Draft / Speed for Trip: 216 Scow: GL63

Initial Draft 18.53
Initial Disposal Speed 7.9

3 Wed Sep 2008

Placement Information:
- Placement Start: Time: 9/4/2008 00:41:49
  - Latitude: 42.413381
  - Longitude: -70.593419
- Placement End: Time: 9/4/2008 00:42:12
  - Latitude: 42.413525
  - Longitude: -70.592245

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISS Play Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 090408_140201

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104225,104231,104234,10... 9/5/2008
## Trip Information:
- **Trip #:** 217
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 9/4/2008 04:07:45
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

## Placement Information:
- **Placement Start:**
  - **Time:** 9/4/2008 06:44:15
  - **Lat:** 42.413373
  - **Long:** -70.592058
- **Aft Draft:** 20.32 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 9/4/2008 06:44:36
  - **Lat:** 42.413444
  - **Long:** -70.590905
- **Aft Draft:** 9.99 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 9/4/2008 3:49:00 AM (Local)
- **Wave Height:** 3.6 ft
- **Dominant Wave Period:** 8.0 sec
- **NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
### Trip Information

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
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<tbody>
<tr>
<td>Trip #</td>
<td>217</td>
</tr>
<tr>
<td>Tug Name</td>
<td>Lemmerhirt</td>
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<tr>
<td>Captain(s)</td>
<td>Unknown</td>
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<tr>
<td>Scow Name</td>
<td>GL65</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5900 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
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<tr>
<td>Init Aft Draft</td>
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<tr>
<td>Init Fore Draft</td>
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<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
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<tr>
<td>Init Fore Bin</td>
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### Placement Information

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
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<tbody>
<tr>
<td>Placement Start</td>
<td>Time: 9/4/2008 06:44:15</td>
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<tr>
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<td>Latitude: 42.413373</td>
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<td>Longitude: -70.592058</td>
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<td>Latitude: 42.413444</td>
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<td>Longitude: -70.590905</td>
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<tr>
<td>Aft Draft</td>
<td>9.99 ft</td>
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<tr>
<td>Forward Draft</td>
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</tr>
<tr>
<td>Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Fore Bin</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Material Source

Unknown

### Material Description

Unknown

---

**Data Information:**

Type: ADISS Play Data.

Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 090408_140417

---

2008 Boston Harbor Maintenance Dredging  
W912WJ-07-C-0023

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104225,104231,104234,10...  
9/5/2008
Trip Information:
- Trip #: 218
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 9/4/2008 11:06:01
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A
- Material Source: Unknown
- Material Description: Unknown
- Wave Information Recorded: 9/4/2008 10:16:00 AM (Local)
- Wave Height: Not Avail.
- Dominant Wave Period: Not Avail.
- NOAA Station: Not Avail.

Placement Information:
- Placement Start:
  - Lat: 42.413305
  - Long: -70.594231
  - Aft Draft: 18.61 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Lat: 42.413351
  - Long: -70.593481
  - Aft Draft: 11.63 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target. The hull status sensor indicates that the GL63 returned to the dredge location while open. SAIC contacted the inspector on-board the tug Lemmerhirt who confirmed that the scow returned while open due to mechanical problems.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com

Version: 090508_104208
Draft / Speed for Trip: 218 Scow: GL63

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<tr>
<th>Trip Information</th>
</tr>
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<tbody>
<tr>
<td>Trip #: 218</td>
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<tr>
<td>Tug Name: Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s): Unknown</td>
</tr>
<tr>
<td>Scow Name: GL63</td>
</tr>
<tr>
<td>Type: Split Hull Scow</td>
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<td>Technique: Bottom Dump</td>
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<tr>
<td>Bin Volume: 5900 cu yd</td>
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<tr>
<td>Start Time: 9/4/2008 11:06:01</td>
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<tr>
<td>Init Aft Draft: 18.53 ft</td>
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<tr>
<td>Init Fore Draft: N/A</td>
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<tr>
<td>Init Aft Bin: N/A</td>
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<tr>
<td>Init Fore Bin: N/A</td>
</tr>
<tr>
<td>Material Source: Unknown</td>
</tr>
<tr>
<td>Material Description: Unknown</td>
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<thead>
<tr>
<th>Placement Information:</th>
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<tbody>
<tr>
<td>Placement Start:</td>
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<td>Longitude: -70.594231</td>
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<td>Fore Bin: N/A</td>
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<tr>
<td>Latitude: 42.413351</td>
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<td>Aft Draft: 11.63 ft</td>
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<tr>
<td>Aft Bin: N/A</td>
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<td>Fore Bin: N/A</td>
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</table>

Data Information:
Type: ADISSPlay Data.

Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target. The hull status sensor indicates that the GL63 returned to the dredge location while open. SAIC contacted the inspector on-board the tug Lemmerhirt who confirmed that the scow returned while open due to mechanical problems.

SAIC Point of Contact: Marc Wakeman    Phone: (401)847-4210    E-mail: info@adiss-afiss.com

2008 Boston Harbor Maintenance Dredging

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104225,104231,104234,104222,104224,104226,104228,104230,104232,104234...
## Trip Information:

<table>
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<th>Trip #</th>
<th>219</th>
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<tbody>
<tr>
<td>Tug</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL65</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5900 cu yd</td>
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<tr>
<td>Start Time</td>
<td>9/4/2008 17:45:51</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>20.40 ft</td>
</tr>
<tr>
<td>Init Fore Draft</td>
<td>N/A</td>
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<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
<td>N/A</td>
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## Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
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</thead>
<tbody>
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<td>Time</td>
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<tr>
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<td>9/4/2008</td>
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<tr>
<td>Lat</td>
<td>42.413090</td>
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<td>-70.593755</td>
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<td>Long</td>
<td>-70.591986</td>
</tr>
</tbody>
</table>

- Aft Draft: 20.40 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

**Material Source:** Unknown

**Material Description:** Unknown

**Wave Information Recorded:** 9/4/2008 5:45:00 PM (Local)

**Wave Height:** Not Avail.  **Dominant Wave Period:** Not Avail.  **NOAA Station:** Not Avail.

---

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 090508_104615

---

**Legend:**
- 🟠 Transit
- 🟡 Placement
- 🟢 Return Transit
- 🟠 Closed / Unknown
- 🔴 Open
### Trip Information

- **Trip #:** 219
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 9/4/2008 17:45:51
- **Init Aft Draft:** 20.40 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:

- **Placement Start:**
  - **Time:** 9/4/2008 20:23:21
  - **Latitude:** 42.413090
  - **Longitude:** -70.593755
- **Aft Draft:** 20.40 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 9/4/2008 20:23:54
  - **Latitude:** 42.413264
  - **Longitude:** -70.591986
- **Aft Draft:** 7.99 ft
- **Forward Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

### Data Information:

- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 090508_104615

---

**2008 Boston Harbor Maintenance Dredging**  
**W912WJ-07-C-0023**
**Trip Information:**

- **Trip #:** 220
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 9/5/2008 01:43:33
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**

- **Time:** 9/5/2008 05:13:55
- **Lat:** 42.429196
- **Long:** -70.579524
- **Aft Draft:** 18.53 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Time:** 9/5/2008 05:14:46
- **Lat:** 42.428139
- **Long:** -70.581378
- **Aft Draft:** 11.15 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown

**Material Description:** Unknown

**Wave Information Recorded:** 9/5/2008 4:21:00 AM (Local)

**Wave Height:** Not Avail.  **Dominant Wave Period:** Not Avail.  **NOAA Station:** Not Avail.

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 220
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 9/5/2008 01:43:33
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
  - Latitude: 42.429196
  - Longitude: -70.579524
- Placement End: Time: 9/5/2008 05:14:46
  - Latitude: 42.428139
  - Longitude: -70.581378
- Aft Draft: 18.53 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 090508_104940
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 221
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 9/5/2008 08:19:47
- Init Aft Draft: 20.32 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
  Lat: 42.413158
  Long: -70.595089
  Aft Draft: 20.32 ft
  Fore Draft: N/A
  Aft Bin: N/A
  Fore Bin: N/A

- Placement End: Time: 9/5/2008 10:58:09
  Lat: 42.413252
  Long: -70.594411
  Aft Draft: 8.44 ft
  Fore Draft: N/A
  Aft Bin: N/A
  Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown
Wave Information Recorded: 9/5/2008 8:17:00 AM (Local)
Wave Height: Not Avail.
Dominant Wave Period: Not Avail.
NOAA Station: Not Avail.

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 090808_120851
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 221 Scow: GL65

Placement Information:
- Placement Start: 9/5/2008 10:57:56
  - Latitude: 42.413158
  - Longitude: -70.595089
  - Aft Draft: 20.32 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End: 9/5/2008 10:58:09
  - Latitude: 42.413252
  - Longitude: -70.594411
  - Aft Draft: 8.44 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 090808_120851

Trip Information:
- Trip #: 222
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 9/5/2008 14:02:05

Placement Information:
- Placement Start: 9/5/2008 17:03:07
  - Lat: 42.413347
  - Long: -70.593349
  - Aft Draft: 18.61 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End: 9/5/2008 17:03:40
  - Lat: 42.413476
  - Long: -70.591526
  - Aft Draft: 10.75 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 9/5/2008 1:57:00 PM (Local)
- Wave Height: Not Avail.
- Dominant Wave Period: Not Avail.
- NOAA Station: Not Avail.

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 090808_121916
Trip Information:

- **Trip #:** 222
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 9/5/2008 14:02:05
- **Init Aft Draft:** 18.61 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

Placement Information:

- **Placement Start:**
  - **Time:** 9/5/2008 17:03:07
  - **Latitude:** 42.413347
  - **Longitude:** -70.593349
  - **Aft Draft:** 18.61 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 9/5/2008 17:03:40
  - **Latitude:** 42.413476
  - **Longitude:** -70.591526
  - **Aft Draft:** 10.75 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

Material Source: Unknown
Material Description: Unknown

**Data Information:**

- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com

Version: 090808_121916

### Trip Information:

- **Trip #:** 223
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5700 cu yd
- **Start Time:** 9/5/2008 20:34:09
- **Init Aft Draft:** 20.40 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:

- **Placement Start:**
  - **Time:** 9/5/2008 23:14:44
  - **Lat:** 42.413136
  - **Long:** -70.595133
  - **Aft Draft:** 20.32 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 9/5/2008 23:14:57
  - **Lat:** 42.413203
  - **Long:** -70.594432
  - **Aft Draft:** 7.99 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

**Material Source:** Unknown  **Material Description:** Unknown

**Wave Information Recorded:** 9/5/2008 7:57:00 PM (Local)

**Wave Height:** Not Avail.  **Dominant Wave Period:** Not Avail.  **NOAA Station:** Not Avail.

---

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com

**Version:** 090808_124002

---

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information
- Trip #: 223
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5700 cu yd
- Start Time: 9/5/2008 20:34:09
  - Init Aft Draft: 20.40 ft
  - Init Fore Draft: N/A
  - Init Aft Bin: N/A
  - Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 9/5/2008 23:14:44
  - Latitude: 42.413136
  - Longitude: -70.595133
  - Aft Draft: 20.32 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Latitude: 42.413203
  - Longitude: -70.594432
  - Aft Draft: 7.99 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com

Version: 090808_124002

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104271,104275,104277,10427...
### Trip Information:

- **Trip #:** 224
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 9/6/2008 05:29:51

### Placement Information:

- **Placement Start:**
  - **Time:** 9/6/2008 08:03:24
  - **Lat:** 42.413250
  - **Long:** -70.593603
  - **Aft Draft:** 18.53 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 9/6/2008 08:03:47
  - **Lat:** 42.413336
  - **Long:** -70.592380
  - **Aft Draft:** 12.10 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Material Information:

- **Material Source:** Unknown
- **Material Description:** Unknown

### Wave Information:

- **Wave Information Recorded:** 9/6/2008 5:21:00 AM (Local)
- **Wave Height:** Not Avail.
- **Dominant Wave Period:** Not Avail.
- **NOAA Station:** Not Avail.

### Notes:

- SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 090808_124438
Draft / Speed for Trip: 224 Scow: GL63

<table>
<thead>
<tr>
<th>Time</th>
<th>Speed (Knots)</th>
<th>Draft (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5AM</td>
<td>0</td>
<td>17.5</td>
</tr>
<tr>
<td>7AM</td>
<td>0</td>
<td>15.0</td>
</tr>
<tr>
<td>8AM</td>
<td>8.3</td>
<td>12.5</td>
</tr>
<tr>
<td>9AM</td>
<td>5.0</td>
<td>10.0</td>
</tr>
<tr>
<td>10AM</td>
<td>2.5</td>
<td>7.5</td>
</tr>
</tbody>
</table>

Initial Draft: 18.53
Initial Disposal Speed: 8.3

Placement Information:
- Placement Start: 9/6/2008 08:03:24
  - Latitude: 42.413250
  - Longitude: -70.593603
- Placement End: 9/6/2008 08:03:47
  - Latitude: 42.413336
  - Longitude: -70.592380
- Aft Draft: 18.53 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Data Information:
- Type: ADISSPlay Data.
- Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 090808_124438

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104271,104275,104277,10427...
Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>Tug</th>
<th>Captain(s)</th>
<th>Scow</th>
<th>Type</th>
<th>Technique</th>
<th>Bin Volume</th>
<th>Start Time</th>
<th>Init Aft Draft</th>
<th>Init Fore Draft</th>
<th>Init Aft Bin</th>
<th>Init Fore Bin</th>
</tr>
</thead>
<tbody>
<tr>
<td>225</td>
<td>Lemmerhirt</td>
<td>Unknown</td>
<td>GL65</td>
<td>Split Hull Scow</td>
<td>Bottom Dump</td>
<td>3975 cu yd</td>
<td>9/6/2008</td>
<td>18.55 ft</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:30:20</td>
<td>13:30:59</td>
</tr>
</tbody>
</table>

Aft Draft: 17.37 ft  Aft Draft: 8.44 ft
Fore Draft: N/A     Fore Draft: N/A
Aft Bin: N/A        Aft Bin: N/A
Fore Bin: N/A       Fore Bin: N/A

Material Source: Unknown  Material Description: Unknown

Wave Information Recorded: 9/6/2008 10:58:00 AM (Local)
Wave Height: Not Avail.  Dominant Wave Period: Not Avail.  NOAA Station: Not Avail.

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com

Version: 090808_124816
**Draft / Speed for Trip: 225 Scow: GL65**

<table>
<thead>
<tr>
<th>Time</th>
<th>Draft (ft)</th>
<th>Speed (Knots)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12PM</td>
<td>17.5</td>
<td>8.8</td>
</tr>
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<td>1PM</td>
<td>17.5</td>
<td>8.8</td>
</tr>
<tr>
<td>2PM</td>
<td>17.5</td>
<td>8.8</td>
</tr>
<tr>
<td>3PM</td>
<td>17.5</td>
<td>8.8</td>
</tr>
</tbody>
</table>

**Placement Information:**
- **Placement Start:**
  - Time: 9/6/2008 13:30:20
  - Latitude: 42.413228
  - Longitude: -70.595279
  - Aft Draft: 17.37 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- **Placement End:**
  - Time: 9/6/2008 13:30:59
  - Latitude: 42.413412
  - Longitude: -70.593105
  - Aft Draft: 8.44 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

**Trip Information:**
- **Trip #:** 225
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 3975 cu yd
- **Start Time:** 9/6/2008 11:06:56
- **Init Aft Draft:** 18.55 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Material Source:** Unknown
**Material Description:** Unknown

**Data Information:**
- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com

Version: 090808_124816

### Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>226</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5800 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>9/14/2008 20:49:07</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>18.45 ft</td>
</tr>
<tr>
<td>Init Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Placement Information:

- **Placement Start:**
  - Time: 9/14/2008 23:33:16
  - Lat: 42.413388
  - Long: -70.593245
- **Placement End:**
  - Time: 9/14/2008 23:33:45
  - Lat: 42.413548
  - Long: -70.591661

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 9/14/2008 8:32:00 PM (Local)
Wave Height: 2.3 ft
Dominant Wave Period: 5.0 sec
NOAA Station: 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
### Trip Information

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
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<tbody>
<tr>
<td>Trip #</td>
<td>226</td>
</tr>
<tr>
<td>Tug Name</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow Name</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
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<tr>
<td>Technique</td>
<td>Bottom Dump</td>
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<tr>
<td>Bin Volume</td>
<td>5800 cu yd</td>
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<tr>
<td>Start Time</td>
<td>9/14/2008 20:49:07</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>18.45 ft</td>
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<tr>
<td>Init Fore Draft</td>
<td>N/A</td>
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<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Placement Information

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Placement Start</td>
<td>Time: 9/14/2008 23:33:16</td>
</tr>
<tr>
<td>Placement End</td>
<td>Time: 9/14/2008 23:33:45</td>
</tr>
<tr>
<td>Latitude</td>
<td>42.41388</td>
</tr>
<tr>
<td>Longitude</td>
<td>-70.593245</td>
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<tr>
<td>Aft Draft</td>
<td>18.53 ft</td>
</tr>
<tr>
<td>Forward Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Forward Bin</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Material Source
- Unknown

### Material Description
- Unknown

### Data Information
- Type: ADISSPlay Data.
- Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 091508_170311

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104481,104482,104529,1...  
9/22/2008
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>227</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL65</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5800 cu yd</td>
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<tr>
<td>Start Time</td>
<td>9/15/2008 02:49:30</td>
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Init Aft Draft: 20.32 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
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<table>
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<tr>
<th>Lat</th>
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<th>Lat</th>
<th>Long</th>
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</thead>
<tbody>
<tr>
<td>42.413343</td>
<td>-70.594716</td>
<td>42.413408</td>
<td>-70.593575</td>
</tr>
</tbody>
</table>

Aft Draft: 8.29 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 9/15/2008 2:43:00 AM (Local)
Wave Height: 2.3 ft
Dominant Wave Period: 4.0 sec
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 091508_165707

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104481,104482,104529,1...
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 227
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Start Time: 9/15/2008 02:49:30

Placement Information:
- Placement Start:
  - Time: 9/15/2008 05:24:10
  - Latitude: 42.413343°
  - Longitude: -70.594716°
- Placement End:
  - Time: 9/15/2008 05:24:31
  - Latitude: 42.413408°
  - Longitude: -70.593575°

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 091508_165707
### Trip Information:

- **Trip #:** 228
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 9/15/2008 09:09:18

<table>
<thead>
<tr>
<th>Init Aft Draft</th>
<th>Init Fore Draft</th>
<th>Init Aft Bin</th>
<th>Init Fore Bin</th>
</tr>
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<tbody>
<tr>
<td>18.53 ft</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
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</table>

### Placement Information:

- **Placement Start Time:** 9/15/2008 12:02:22
- **Lat:** 42.413164
- **Long:** -70.594701
- **Aft Draft:** 18.53 ft
- **Aft Bin:** N/A

- **Placement End Time:** 9/15/2008 12:02:35
- **Lat:** 42.413249
- **Long:** -70.594022
- **Aft Draft:** 11.94 ft
- **Aft Bin:** N/A

- **Material Source:** Unknown
- **Material Description:** Unknown

### Wave Information Recorded:

- **Date:** 9/15/2008 8:50:00 AM (Local)
- **Wave Height:** 2.6 ft
- **Dominant Wave Period:** 3.0 sec
- **NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

### SAIC Point of Contact:

- **Marc Wakeman**
- **Phone:** (401)847-4210
- **E-mail:** info@adiss-afiss.com

**Version:** 091508_165653
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 228 Scow: GL63

Initial Draft 18.53
Initial Disposal Speed 8.3

Placement

15 Mon Sep 2008

LEGEND:  Transit  Placement  Return Transit

<table>
<thead>
<tr>
<th>Trip Information</th>
<th>Placement Information</th>
<th>Placement End:</th>
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<tbody>
<tr>
<td>Trip #:</td>
<td>Placement Start:</td>
<td>Placement End:</td>
</tr>
<tr>
<td>Tug Name:</td>
<td>Time:</td>
<td>Time:</td>
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<tr>
<td>Captain(s):</td>
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<tr>
<td>Scow Name:</td>
<td>12:02:22</td>
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<tr>
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<td>Bin Volume:</td>
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<tr>
<td>Start Time:</td>
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</tr>
<tr>
<td></td>
<td>9/15/2008 09:09:18</td>
<td>11.94 ft</td>
</tr>
<tr>
<td></td>
<td>Initial Aft Draft:</td>
<td>Initial Aft Draft:</td>
</tr>
<tr>
<td></td>
<td>18.53 ft</td>
<td>18.53 ft</td>
</tr>
<tr>
<td></td>
<td>Init Aft Draft:</td>
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<td></td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Init Fore Draft:</td>
<td>Forward Draft:</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Init Fore Bin:</td>
<td>Fore Bin:</td>
</tr>
<tr>
<td></td>
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</tr>
</tbody>
</table>

Material Source: Unknown  Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 091508_165653

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104481,104482,104529,1...  9/22/2008
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 229
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 9/15/2008 15:26:27

Placement Information:
- Placement Start:
  - Time: 9/15/2008 18:34:46
  - Lat: 42.413109
  - Long: -70.594670
- Placement End:
  - Time: 9/15/2008 18:35:19
  - Lat: 42.413290
  - Long: -70.592976

Init Aft Draft: 20.47 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 9/15/2008 3:17:00 PM (Local)
- Wave Height: 2.3 ft
- Dominant Wave Period: 4.0 sec
- NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 091608_155421
Trip Information:
- Trip #: 229
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 9/15/2008 15:26:27
- Initial Aft Draft: 20.47 ft
- Initial Fore Draft: N/A
- Initial Aft Bin: N/A
- Initial Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 9/15/2008 18:34:46
  - Latitude: 42.413109
  - Longitude: -70.594670
- Placement End:
  - Time: 9/15/2008 18:35:19
  - Latitude: 42.413290
  - Longitude: -70.592976
- Aft Draft: 20.40 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 091608_155421
### Trip Information:

- **Trip #:** 230
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 9/15/2008 22:48:42
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:

- **Placement Start:**
  - **Time:** 9/16/2008 01:37:40
  - **Lat:** 42.413179
  - **Long:** -70.594556
- **Placement End:**
  - **Time:** 9/16/2008 01:38:19
  - **Lat:** 42.413355
  - **Long:** -70.592338

- **Aft Draft:** 18.53 ft
- **Aft Bin:** N/A
- **Fore Draft:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 9/15/2008 10:28:00 PM (Local)  
**Wave Height:** 1.3 ft  
**Dominant Wave Period:** 6.0 sec  
**NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 091608_114226

---

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104481,104482,104529,1...
**Trip Information**

- **Trip #:** 230
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 9/15/2008 22:48:42
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Placement Information:**

- **Placement Start:**
  - **Time:** 9/16/2008 01:37:40
  - **Latitude:** 42.413179
  - **Longitude:** -70.594556
- **Placement End:**
  - **Time:** 9/16/2008 01:38:19
  - **Latitude:** 42.413355
  - **Longitude:** -70.592338

- **Aft Draft:** 11.94 ft
- **Forward Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Data Information:**

- **Type:** ADISS Play Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 091608_114226
### Trip Information:
- **Trip #**: 231
- **Tug**: Lemmerhirt
- **Captain(s)**: Unknown
- **Scow**: GL65
- **Type**: Split Hull Scow
- **Technique**: Bottom Dump
- **Bin Volume**: 5900 cu yd
- **Start Time**: 9/16/2008 08:07:00
- **Init Aft Draft**: 20.32 ft
- **Init Fore Draft**: N/A
- **Init Aft Bin**: N/A
- **Init Fore Bin**: N/A

### Placement Information:
- **Placement Start**: 9/16/2008 10:54:57
  - **Time**: 9/16/2008 10:54:57
  - **Lat**: 42.412829
  - **Long**: -70.595069
  - **Aft Draft**: 20.32 ft
  - **Fore Draft**: N/A
  - **Aft Bin**: N/A
  - **Fore Bin**: N/A
- **Placement End**: 9/16/2008 10:55:38
  - **Time**: 9/16/2008 10:55:38
  - **Lat**: 42.412769
  - **Long**: -70.592996
  - **Aft Draft**: 8.36 ft
  - **Fore Draft**: N/A
  - **Aft Bin**: N/A
  - **Fore Bin**: N/A

### Notes:
- **Material Source**: Unknown
- **Material Description**: Unknown
- **Wave Information Recorded**: 9/16/2008 7:38:00 AM (Local)
  - **Wave Height**: 1.3 ft
  - **Dominant Wave Period**: 7.0 sec
  - **NOAA Station**: 44013

---

**SAIC Point of Contact**: Marc Wakeman  
**Phone**: (401)847-4210  
**E-mail**: info@adiss-afiss.com  
**Version**: 091708_132941

---

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104481,104482,104529,1...  
9/22/2008
Trip Information:
- Trip #: 231
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 9/16/2008 08:07:00
- Init Aft Draft: 20.32 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Placement Information:
- Placement Start:
  - Time: 9/16/2008 10:54:57
  - Latitude: 42.412829
  - Longitude: -70.595069
- Placement End:
  - Latitude: 42.412769
  - Longitude: -70.592996

Aft Draft: 20.32 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Data Information:
Type: ADISS Play Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman   Phone: (401)847-4210   E-mail: info@adiss-afiss.com
Version: 091708_132941
### Trip Information:
- **Trip #:** 232
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 9/16/2008 19:35:26
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:**
  - **Time:** 9/16/2008 22:27:52
  - **Lat:** 42.412773
  - **Long:** -70.593169
  - **Aft Draft:** 18.45 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 9/16/2008 22:28:31
  - **Lat:** 42.412718
  - **Long:** -70.591062
  - **Aft Draft:** 12.58 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Notes:
- SAIC designated placement locations illustrate a successful placement of material in disposal site target.

### Wave Information Recorded:
- **Date:** 9/16/2008 7:03:00 PM (Local)
- **Wave Height:** 1.3 ft
- **Dominant Wave Period:** 6.0 sec
- **NOAA Station:** 44013

---

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 091708_134021

---

2008 Boston Harbor Capping Demo Phase V Line VIII

**Legend:**
- **Transit**
- **Placement**
- **Return Transit**

**Hull Status:**
- **Closed / Unknown**
- **Open**

---

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104481,104482,104529,1...  
9/22/2008
Draft / Speed for Trip: 232 Scow: GL63

Initial Draft: 18.53
Initial Disposal Speed: 8.2

Placement

Placement Start:
Time: 9/16/2008 22:27:52
Latitude: 42.412773
Longitude: -70.593169
Aft Draft: 18.45 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Time: 9/16/2008 22:28:31
Latitude: 42.412718
Longitude: -70.591062
Aft Draft: 12.58 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Trip Information
- Trip #: 232
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 9/16/2008 19:35:26
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A
- Material Source: Unknown
- Material Description: Unknown

Placement Information:
- Placement Start:
  Time: 9/16/2008 22:27:52
  Latitude: 42.412773
  Longitude: -70.593169
  Aft Draft: 18.45 ft
  Fore Draft: N/A
  Aft Bin: N/A
  Fore Bin: N/A
- Placement End:
  Time: 9/16/2008 22:28:31
  Latitude: 42.412718
  Longitude: -70.591062
  Aft Draft: 12.58 ft
  Forward Draft: N/A
  Aft Bin: N/A
  Fore Bin: N/A

Data Information:
- Type: ADISSPlay Data.
- Notes:

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 091708_134021

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104481,104482,104529,1... 9/22/2008
## Trip Information:
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<tbody>
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<td>Lemmerhirt</td>
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<tr>
<td>Scow</td>
<td>GL65</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5900 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>9/17/2008 04:21:15</td>
</tr>
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| Init Aft Draft | 20.32 ft |
| Init Fore Draft | N/A |
| Init Aft Bin | N/A |
| Init Fore Bin | N/A |

## Placement Information:
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Time</td>
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<tr>
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<td>Long</td>
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<tr>
<td>42.413008</td>
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</tr>
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<td>Lat</td>
<td>Long</td>
</tr>
<tr>
<td>42.412910</td>
<td>-70.589408</td>
</tr>
</tbody>
</table>

| Init Aft Draft | Aft Draft | Aft Draft |
| Init Fore Draft | Fore Draft | Fore Draft |
| Init Aft Bin | Aft Bin | Aft Bin |
| Init Fore Bin | Fore Bin | Fore Bin |
| N/A | 19.88 ft | 8.29 ft |
| N/A | N/A | N/A |
| N/A | N/A | N/A |

Material Source: Unknown  Material Description: Unknown

Wave Information Recorded: 9/17/2008 4:15:00 AM (Local)
Wave Height: 1.3 ft Dominant Wave Period: 11.0 sec NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 233 Scow: GL65

Initial Draft: 20.32 ft
Initial Disposal Speed: 8.5 knots

Placement Information:
Placement Start:
Time: 9/17/2008 07:11:39
Latitude: 42.413008
Longitude: -70.591866
Aft Draft: 19.88 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Time: 9/17/2008 07:12:24
Latitude: 42.413010
Longitude: -70.589408
Aft Draft: 8.29 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Trip Information:
Trip #: 233
Tug Name: Lemmerhirt
Captain(s): Unknown
Scow Name: GL65
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5900 cu yd
Start Time: 9/17/2008 04:21:15
Init Aft Draft: 20.32 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISS Play Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 091708_133208
Trip Information:
- Trip #: 234
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 9/17/2008 12:23:00
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 9/17/2008 15:15:51
  - Lat: 42.413124
  - Long: -70.589537
- Placement End:
  - Time: 9/17/2008 15:16:04
  - Lat: 42.413179
  - Long: -70.588829
- Aft Draft: 12.42 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 9/17/2008 12:20:00 PM (Local)
Wave Height: 2.0 ft Dominant Wave Period: 11.0 sec NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 091808_124404
### Trip Information

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<thead>
<tr>
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<th>234</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug Name</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow Name</td>
<td>GL63</td>
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<tr>
<td>Type</td>
<td>Split Hull Scow</td>
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<td>Technique</td>
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<tr>
<td>Bin Volume</td>
<td>5900 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>9/17/2008 12:23:00</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>18.53 ft</td>
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<tr>
<td>Init Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
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</table>

### Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
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<tbody>
<tr>
<td>Time</td>
<td>Time</td>
</tr>
<tr>
<td>Latitude</td>
<td>Longitude</td>
</tr>
<tr>
<td>42.413124</td>
<td>-70.589537</td>
</tr>
<tr>
<td>Aft Draft</td>
<td>Forward Draft</td>
</tr>
<tr>
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<tr>
<td>Fore Draft</td>
<td>Aft Bin</td>
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<td>Aft Bin</td>
<td>Fore Bin</td>
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<tr>
<td>N/A</td>
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</tbody>
</table>

### Material Source:
Unknown

### Material Description:
Unknown

### Data Information:

Type: ADISS Play Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com

**Version:** 091808_124404
### Trip Information:
- **Trip #:** 235
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 9/17/2008 21:52:53
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A
- **Material Source:** Unknown
- **Material Description:** Unknown

### Placement Information:
- **Placement Start:**
  - **Time:** 9/18/2008 01:01:15
  - **Lat:** 42.413667
  - **Long:** -70.594952
  - **Aft Draft:** 20.32 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 9/18/2008 01:01:36
  - **Lat:** 42.413757
  - **Long:** -70.593857
  - **Aft Draft:** 9.40 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Wave Information Recorded:
- **Date:** 9/17/2008 9:16:00 PM (Local)
- **Wave Height:** 2.3 ft
- **Dominant Wave Period:** 10.0 sec
- **NOAA Station:** 44013

---

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com

**Version:** 091908_123417
Trip Information:
- Trip #: 235
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Init Aft Draft: 20.32 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Placement Information:
- Placement Start:
  - Time: 9/18/2008 01:01:15
  - Latitude: 42.413667
  - Longitude: -70.594952
- Placement End:
  - Time: 9/18/2008 01:01:36
  - Latitude: 42.413757
  - Longitude: -70.593857
- Aft Draft: 20.32 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 091908_123417
## Trip Information:
- **Trip #:** 236
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 9/18/2008 05:13:03
- **Init Aft Draft:** 18.45 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A
- **Material Source:** Unknown
- **Material Description:** Unknown

## Placement Information:
- **Placement Start:**
  - Time: 9/18/2008 08:09:03
  - Lat: 42.413899
  - Long: -70.593734
  - Aft Draft: 18.45 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- **Placement End:**
  - Time: 9/18/2008 08:09:20
  - Lat: 42.414109
  - Long: -70.592958
  - Aft Draft: 11.86 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

## Wave Information Recorded:
- Wave Height: 1.3 ft
- Dominant Wave Period: 11.0 sec
- NOAA Station: 44013

## Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 091908_123713
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information
Trip #: 236
Tug Name: Lemmerhirt
Captain(s): Unknown
Scow Name: GL63
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5900 cu yd
Start Time: 9/18/2008 05:13:03
Init Aft Draft: 18.45 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Placement Information:
Placement Start:
Time: 9/18/2008 08:09:03
Latitude: 42.413899
Longitude: -70.593734
Aft Draft: 18.45 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Time: 9/18/2008 08:09:20
Latitude: 42.414109
Longitude: -70.592958
Aft Draft: 11.86 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman Phone: (401)847-4210 E-mail: info@adiss-afiss.com
Version: 091908_123713

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104481,104482,104529,1... 9/22/2008
2008 Boston Harbor Maintenance Dredging  
W912WJ-07-C-0023

Trip Information:
- Trip #: 237
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Start Time: 9/19/2008 20:24:52
- Init Aft Draft: 18.45 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start: 9/19/2008 23:41:58
  - Lat: 42.429329
  - Long: -70.578739
  - Aft Draft: 18.45 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End: 9/19/2008 23:42:16
  - Lat: 42.429982
  - Long: -70.578842
  - Aft Draft: 12.26 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown
Wave Information Recorded: 9/19/2008 8:07:00 PM (Local)
Wave Height: 4.3 ft
Dominant Wave Period: 7.0 sec
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  
Phone: (401)847-4210  
E-mail: info@adiss-afiss.com
Version: 092208_153737
Trip Information:
- Trip #: 237
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Start Time: 9/19/2008 20:24:52
- Init Aft Draft: 18.45 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 9/19/2008 23:41:58
  - Latitude: 42.429329
  - Longitude: -70.578739
  - Aft Draft: 18.45 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 9/19/2008 23:42:16
  - Latitude: 42.429982
  - Longitude: -70.578842
  - Aft Draft: 12.26 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Trip Information:
- Trip #: 238
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Start Time: 9/20/2008 04:02:01
- Init Aft Draft: 20.17 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A
- Material Source: Unknown
- Material Description: Unknown

Placement Information:
- Placement Start: Time: 9/20/2008 06:41:07
- Lat: 42.414195
- Long: -70.590327
- Aft Draft: 20.32 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A
- Placement End: Time: 9/20/2008 06:41:19
- Lat: 42.414243
- Long: -70.589647
- Aft Draft: 9.25 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Wave Information Recorded:
- 9/20/2008 3:23:00 AM (Local)
- Wave Height: 4.3 ft
- Dominant Wave Period: 7.0 sec
- NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com

Version: 092208_154039
Trip Information:
- **Trip #:** 238
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 9/20/2008 04:02:01
- **Init Aft Draft:** 20.17 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

Placement Information:
- **Placement Start:**
  - **Time:** 9/20/2008 06:41:07
  - **Latitude:** 42.414195
  - **Longitude:** -70.590327
- **Aft Draft:** 20.32 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 9/20/2008 06:41:19
  - **Latitude:** 42.414243
  - **Longitude:** -70.589647
- **Aft Draft:** 9.25 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown
**Material Description:** Unknown

Data Information:
- **Type:** ADISSPlay Data.

Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com

Edition: 092208_154039
### Trip Information:
- **Trip #:** 239
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 9/20/2008 10:19:16
- **Init Aft Draft:** 18.45 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:**
  - **Time:** 9/20/2008 13:05:52
  - **Lat:** 42.414109
  - **Long:** -70.591751
  - **Aft Draft:** 18.53 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 9/20/2008 13:06:07
  - **Lat:** 42.414173
  - **Long:** -70.590969
  - **Aft Draft:** 12.02 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Material Source:** Unknown
- **Material Description:** Unknown
- **Wave Information Recorded:** 9/20/2008 9:57:00 AM (Local)
- **Wave Height:** 3.3 ft
- **Dominant Wave Period:** 8.0 sec
- **NOAA Station:** 44013

---

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 092208_154057
Trip Information:

- Trip #: 239
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Start Time: 9/20/2008 10:19:16
- Init Aft Draft: 18.45 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:

- Placement Start:
  - Time: 9/20/2008 13:05:52
  - Latitude: 42.414109
  - Longitude: -70.591751
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- Placement End:
  - Time: 9/20/2008 13:06:07
  - Latitude: 42.414173
  - Longitude: -70.590969
  - Aft Draft: 12.02 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:

- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 092208_154057

2008 Boston Harbor Maintenance Dredging

## Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>240</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL65</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
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<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5800 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>9/20/2008 15:59:21</td>
</tr>
</tbody>
</table>

| Init Aft Draft | 20.40 ft |
| Init Fore Draft| N/A |
| Init Aft Bin   | N/A |
| Init Fore Bin  | N/A |

## Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>Time</td>
</tr>
<tr>
<td>9/20/2008</td>
<td>9/20/2008</td>
</tr>
<tr>
<td>18:52:57</td>
<td>18:53:11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lat</th>
<th>Long</th>
</tr>
</thead>
<tbody>
<tr>
<td>42.428198</td>
<td>-70.577117</td>
</tr>
<tr>
<td>42.428122</td>
<td>-70.576375</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aft Draft</th>
<th>Fore Draft</th>
<th>Aft Bin</th>
<th>Fore Bin</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.32 ft</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>8.95 ft</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Material Information:

- **Material Source:** Unknown
- **Material Description:** Unknown

### Wave Information:

- **Wave Height:** 3.0 ft
- **Dominant Wave Period:** 7.0 sec
- **NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 240 Scow: GL65

Trip Information:
- Trip #: 240
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Start Time: 9/20/2008 15:59:21
- Init Aft Draft: 20.40 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 9/20/2008 18:52:57
  - Latitude: 42.428198
  - Longitude: -70.577117
- Placement End:
  - Time: 9/20/2008 18:53:11
  - Latitude: 42.428122
  - Longitude: -70.576375
- Aft Draft: 20.32 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 092208_153718

2008 Boston Harbor Maintenance Dredging

### Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>241</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug:</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow:</td>
<td>GL63</td>
</tr>
<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>5900 cu yd</td>
</tr>
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</table>

### Placement Information:

<table>
<thead>
<tr>
<th>Placement Start:</th>
<th>Placement End:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lat: 42.428410</td>
<td>Lat: 42.428534</td>
</tr>
<tr>
<td>Long: -70.577687</td>
<td>Long: -70.576837</td>
</tr>
</tbody>
</table>

| Init Aft Draft: | 18.45 ft |
| Init Fore Draft: | N/A |
| Init Aft Bin: | N/A |
| Init Fore Bin: | N/A |

| Aft Draft: | 18.45 ft |
| Fore Draft: | N/A |
| Aft Bin: | N/A |
| Fore Bin: | N/A |

### Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 092208_153653
### Trip Information

<table>
<thead>
<tr>
<th>Trip #</th>
<th>241</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug Name</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow Name</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5900 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>9/20/2008 22:23:09</td>
</tr>
</tbody>
</table>

| Initial Aft Draft | 18.45 ft |
| Initial Fore Draft | N/A |
| Initial Aft Bin | N/A |
| Initial Fore Bin | N/A |

### Placement Information

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Time: 9/21/2008 01:23:25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latitude</td>
<td>42.428410</td>
</tr>
<tr>
<td>Longitude</td>
<td>-70.577687</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Placement End</th>
<th>Time: 9/21/2008 01:23:41</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latitude</td>
<td>42.428534</td>
</tr>
<tr>
<td>Longitude</td>
<td>-70.576837</td>
</tr>
</tbody>
</table>

| Aft Draft | 18.45 ft |
| Forward Draft | N/A |
| Aft Bin | N/A |
| Fore Bin | N/A |

### Material Information

- **Material Source:** Unknown
- **Material Description:** Unknown

### Data Information

- **Type:** ADISSPlay Data
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com

**Version:** 092208_153653

---

**2008 Boston Harbor Maintenance Dredging**
**Trip Information:**
- **Trip #:** 242
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 9/21/2008 04:44:14
- **Init Aft Draft:** 20.25 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**
- **Placement Start:**
  - **Time:** 9/21/2008 07:55:28
  - **Lat:** 42.429348
  - **Long:** -70.578189
- **Aft Draft:** 20.32 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 9/21/2008 07:55:40
  - **Lat:** 42.429409
  - **Long:** -70.577516
- **Aft Draft:** 8.81 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown
**Material Description:** Unknown

**Wave Information Recorded:**
- **Wave Height:** 2.0 ft
- **Dominant Wave Period:** 9.0 sec
- **NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target. The hull status sensor indicated that the scow remained open throughout the return transit of load #242. SAIC contacted Tug Inspector Frank Alboth aboard the Tug Lemmerhirt who informed SAIC that the GL65 was giving off a "Hydrolic Alarm." The GL65 was manually closed upon return to the Dredge site.

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com
**Version:** 092208 _153608

Trip Information:

- **Trip #:** 242
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 9/21/2008 04:44:14
- **Init Aft Draft:** 20.25 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

Placement Information:

- **Placement Start:**
  - **Time:** 9/21/2008 07:55:28
  - **Latitude:** 42.429348
  - **Longitude:** -70.578189

- **Placement End:**
  - **Time:** 9/21/2008 07:55:40
  - **Latitude:** 42.429409
  - **Longitude:** -70.577516

Material Source: Unknown

Material Description: Unknown

Data Information:

Type: ADISSPlay Data.

Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target. The hull status sensor indicated that the scow remained open throughout the return transit of load #242. SAIC contacted Tug Inspector Frank Alboth aboard the Tug Lemmerhirt who informed SAIC that the GL65 was giving off a "Hydraulic Alarm." The GL65 was manually closed upon return to the Dredge site.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com

Version: 092208_153608
### Trip Information:

- **Trip #:** 243
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 9/21/2008 11:50:43
- **Init Aft Draft:** 18.61 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:

- **Placement Start:**
  - **Time:** 9/21/2008 14:57:33
  - **Lat:** 42.429017
  - **Long:** -70.578854
  - **Aft Draft:** 18.61 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 9/21/2008 14:57:49
  - **Lat:** 42.429226
  - **Long:** -70.578130
  - **Aft Draft:** 11.55 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 092208_153530
Draft / Speed for Trip: 243 Scow: GL63

Initial Draft 18.61
Initial Disposal Speed 7.5

Placement Information:
Placement Start:
Time: 9/21/2008 14:57:33
Latitude: 42.429017
Longitude: -70.578854
Aft Draft: 18.61 ft
Aft Bin: N/A

Placement End:
Time: 9/21/2008 14:57:49
Latitude: 42.429226
Longitude: -70.578130
Aft Draft: 11.55 ft
Aft Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

Trip Information:
Trip #: 243
Tug Name: Lemmerhirt
Captain(s): Unknown
Scow Name: GL63
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5800 cu yd
Start Time: 9/21/2008 11:50:43
Init Aft Draft: 18.61 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Placement Information:
Placement Start:
Time: 9/21/2008 14:57:33
Latitude: 42.429017
Longitude: -70.578854
Aft Draft: 18.61 ft
Aft Bin: N/A
Fore Draft: N/A
Fore Bin: N/A

Placement End:
Time: 9/21/2008 14:57:49
Latitude: 42.429226
Longitude: -70.578130
Aft Draft: 11.55 ft
Aft Bin: N/A
Forward Draft: N/A
Forward Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman    Phone: (401)847-4210    E-mail: info@adiss-afiss.com
Version: 092208_153530

2008 Boston Harbor Maintenance Dredging
### W912WJ-07-C-0023

#### Trip Information:
- **Trip #:** 244  
- **Tug:** Lemmerhirt  
- **Captain(s):** Unknown  
- **Scow:** GL65  
- **Type:** Split Hull Scow  
- **Technique:** Bottom Dump  
- **Bin Volume:** 5800 cu yd  
- **Start Time:** 9/21/2008 19:54:40  
- **Init Aft Draft:** 20.32 ft  
- **Init Fore Draft:** N/A  
- **Init Aft Bin:** N/A  
- **Init Fore Bin:** N/A

#### Placement Information:
- **Placement Start:** 9/21/2008 22:43:32  
  - **Time:** 9/21/2008 22:43:32  
  - **Lat:** 42.429785  
  - **Long:** -70.578885  
  - **Aft Draft:** 20.32 ft  
  - **Fore Draft:** N/A  
  - **Aft Bin:** N/A  
  - **Fore Bin:** N/A  
- **Placement End:** 9/21/2008 22:43:44  
  - **Time:** 9/21/2008 22:43:44  
  - **Lat:** 42.429895  
  - **Long:** -70.578270  
  - **Aft Draft:** 9.10 ft  
  - **Fore Draft:** N/A  
  - **Aft Bin:** N/A  
  - **Fore Bin:** N/A

#### Notes:
- SAIC designated placement locations illustrate a successful placement of material in disposal site target. The hull status sensor indicated that the scow remained open throughout the return transit of load #244. SAIC contacted Tug Inspector Frank Alboth aboard the Tug Lemmerhirt who informed SAIC that the GL65 was giving off a "Hydraulic Alarm" The GL65 was manually closed upon return to the Dredge site.

#### Material Source:
- **Material Source:** Unknown

#### Material Description:
- **Material Description:** Unknown

#### Wave Information Recorded:
- **Wave Height:** 2.6 ft  
- **Dominant Wave Period:** 9.0 sec  
- **NOAA Station:** 44013

### Placement Location:
- **2008 Boston Harbor MBDS Disposal Buoy**
- **NAD 83 Coordinates:**
  - 42 25 777 N
  - 70 34 888 W

### Legend:
- **Transit**
- **Placement**
- **Return Transit**
- **Closed / Unknown**
- **Open**

---

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 092208_153359
Draft / Speed for Trip: 244 Scow: GL65

**Trip Information:**
- **Trip #:** 244
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 9/21/2008 19:54:40
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Data Information:**
- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target. The hull status sensor indicated that the scow remained open throughout the return transit of load #244. SAIC contacted Tug Inspector Frank Alboth aboard the Tug Lemmerhirt who informed SAIC that the GL65 was giving off a "Hydraulic Alarm" The GL65 was manually closed upon return to the Dredge site.

**Placement Information:**
- **Placement Start:**
  - **Time:** 9/21/2008 22:43:32
  - **Latitude:** 42.429785
  - **Longitude:** -70.578885
- **Placement End:**
  - **Time:** 9/21/2008 22:43:44
  - **Latitude:** 42.429895
  - **Longitude:** -70.578270

**Additional Information:**
- **Aft Draft:** 20.32 ft
- **Forward Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 092208_153359

**Trip Information:**

<table>
<thead>
<tr>
<th>Trip #</th>
<th>245</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5800 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>9/22/2008 02:46:51</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>18.45 ft</td>
</tr>
<tr>
<td>Init Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Placement Information:**

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>9/22/2008 05:40:35</td>
</tr>
<tr>
<td>Lat</td>
<td>42.429327</td>
</tr>
<tr>
<td>Long</td>
<td>-70.580149</td>
</tr>
<tr>
<td>Time</td>
<td>9/22/2008 05:40:51</td>
</tr>
<tr>
<td>Lat</td>
<td>42.429488</td>
</tr>
<tr>
<td>Long</td>
<td>-70.579326</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aft Draft</th>
<th>Fore Draft</th>
<th>Aft Bin</th>
<th>Fore Bin</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.45 ft</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>11.86 ft</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Material Information:**

- **Material Source:** Unknown
- **Material Description:** Unknown

**Wave Information Recorded:**

- 9/22/2008 2:35:00 AM (Local)
- Wave Height: 3.3 ft
- Dominant Wave Period: 8.0 sec
- NOAA Station: 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Trip Information:

- Trip #: 245
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Start Time: 9/22/2008 02:46:51
- Init Aft Draft: 18.45 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:

- Placement Start:
  - Time: 9/22/2008 05:40:35
  - Latitude: 42.429327
  - Longitude: -70.580149
- Placement End:
  - Time: 9/22/2008 05:40:51
  - Latitude: 42.429488
  - Longitude: -70.579326
- Aft Draft: 18.45 ft
- Forward Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:

- Type: ADISS Play Data.
- Notes:
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 092208_153440

### Trip Information:
- **Trip #:** 246
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 9/23/2008 15:10:16
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start: Time:** 9/23/2008 18:22:46
  - **Lat:** 42.430177
  - **Long:** -70.579292
- **Aft Draft:** 18.53 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A
- **Placement End: Time:** 9/23/2008 18:23:02
  - **Lat:** 42.430270
  - **Long:** -70.578508
- **Aft Draft:** 12.10 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

### Material Information:
- **Material Source:** Unknown
- **Material Description:** Unknown

### Wave Information Recorded:
- **Date:** 9/23/2008
- **Time:** 3:10:16 PM (Local)
- **Wave Height:** 3.3 ft
- **Dominant Wave Period:** 5.0 sec
- **NOAA Station:** 44013

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 092408_104749

---

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104794,104793,104795,1...  
9/30/2008
### Trip Information
- **Trip #:** 246
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 9/23/2008 15:10:16
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A
- **Material Source:** Unknown
- **Material Description:** Unknown

### Placement Information
- **Placement Start:**
  - **Time:** 9/23/2008 18:22:46
  - **Latitude:** 42.430177
  - **Longitude:** -70.579292
  - **Aft Draft:** 18.53 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 9/23/2008 18:23:02
  - **Latitude:** 42.430270
  - **Longitude:** -70.578508
  - **Aft Draft:** 12.10 ft
  - **Forward Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Data Information:
- **Type:** ADISSPlay Data.
- **Notes:**
  > SAIC designated placement locations illustrate a successful placement of material in disposal site target.

### SAIC Point of Contact:
- **Marc Wakeman**
- **Phone:** (401)847-4210
- **E-mail:** info@adiss-afiss.com

---

**2008 Boston Harbor Maintenance Dredging**

[Online Resource](http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104794,104793,104795,1...)

9/30/2008
**Trip Information:**

- **Trip #:** 247
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 9/23/2008 21:46:19
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**

- **Placement Start:**
  - **Time:** 9/24/2008 00:38:19
  - **Lat:** 42.428967
  - **Long:** -70.579986
- **Aft Draft:** 20.32 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 9/24/2008 00:38:31
  - **Lat:** 42.428981
  - **Long:** -70.579373
- **Aft Draft:** 9.03 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:**

- **9/23/2008 9:46:19 PM (Local)**
- **Wave Height:** 3.6 ft
- **Dominant Wave Period:** 6.0 sec
- **NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 092408_105139
Draft / Speed for Trip: 247 Scow: GL65

Trip Information:
- Trip #: 247
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Init Aft Draft: 20.32 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 9/24/2008 00:38:19
  - Latitude: 42.428967
  - Longitude: -70.579986
  - Aft Draft: 20.32 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 9/24/2008 00:38:31
  - Latitude: 42.428981
  - Longitude: -70.579373
  - Aft Draft: 9.03 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com

Version: 092408_105139
### Trip Information:
- **Trip #:** 248
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 9/24/2008 03:51:50

### Placement Information:
- **Placement Start:**
  - **Time:** 9/24/2008 06:55:02
  - **Lat:** 42.428918
  - **Long:** -70.580518
  - **Aft Draft:** 18.53 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 9/24/2008 06:55:18
  - **Lat:** 42.429048
  - **Long:** -70.579764
  - **Aft Draft:** 12.10 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Material Information:
- **Material Source:** Unknown
- **Material Description:** Unknown

### Wave Information Recorded:
- **Wave Height:** 3.0 ft
- **Dominant Wave Period:** 6.0 sec
- **NOAA Station:** 44013

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 248 Scow: GL63

24 Wed Sep 2008

LEGEND: □ Transit ■ Placement □ Return Transit

Placement Information:
- Placement Start:
  - Time: 9/24/2008 06:55:02
  - Latitude: 42.428918
  - Longitude: -70.580518
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 9/24/2008 06:55:18
  - Latitude: 42.429048
  - Longitude: -70.579764
  - Aft Draft: 12.10 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISS Play Data.
- Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 092408_115818

2008 Boston Harbor Maintenance Dredging

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104794,104793,104795,1... 9/30/2008
### Trip Information:

- **Trip #:** 249
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 9/24/2008 12:13:29

### Placement Information:

- **Placement Start:**
  - **Time:** 9/24/2008 15:07:33
  - **Lat:** 42.429615
  - **Long:** -70.581230
  - **Aft Draft:** 20.47 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 9/24/2008 15:07:47
  - **Lat:** 42.429639
  - **Long:** -70.580547
  - **Aft Draft:** 8.81 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Material Information:

- **Source:** Unknown
- **Description:** Unknown

### Wave Information:

- **Recorded:** 9/24/2008 11:54:00 AM (Local)
- **Height:** 2.3 ft
- **Dominant Period:** 7.0 sec
- **NOAA Station:** 44013

### Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com

**Version:** 092508_104248
Trip Information:
- Trip #: 249
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5900 cu yd
- Init Aft Draft: 20.40 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 9/24/2008 15:07:33
  - Latitude: 42.429615
  - Longitude: -70.581230
  - Aft Draft: 20.47 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- Placement End:
  - Time: 9/24/2008 15:07:47
  - Latitude: 42.429639
  - Longitude: -70.580547
  - Aft Draft: 8.81 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISS Play Data.
- Notes:
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com

Version: 092508_104248
**Trip Information:**
- **Trip #:** 250
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 9/24/2008 18:20:30

**Placement Information:**
- **Time:** 9/24/2008 21:18:56
- **Lat:** 42.429681
- **Long:** -70.580550
- **Aft Draft:** 18.53 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A
- **Time:** 9/24/2008 21:19:12
- **Lat:** 42.429847
- **Long:** -70.579733
- **Aft Draft:** 12.42 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 9/24/2008 6:12:00 PM (Local)  
**Wave Height:** 2.6 ft  
**Dominant Wave Period:** 8.0 sec  
**NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target. The hull status sensor indicated that the scow remained open throughout the return transit of load #250.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 092508_104440

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104794,104793,104795,1...  
9/30/2008
Draft / Speed for Trip: 250 Scow: GL63

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information

Trip #: 250
Tug Name: Lemmerhirt
Captain(s): Unknown
Scow Name: GL63
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5800 cu yd
Start Time: 9/24/2008 18:20:30
Init Aft Draft: 18.53 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Placement Information:

Placement Start:
Time: 9/24/2008 21:18:56
Latitude: 42.429681
Longitude: -70.580550
Aft Draft: 18.53 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Time: 9/24/2008 21:19:12
Latitude: 42.429847
Longitude: -70.579733
Aft Draft: 12.42 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:

Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target. The hull status sensor indicated that the scow remained open throughout the return transit of load #250.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 092508_104440

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104794,104793,104795,1...
**Trip Information:**
- **Trip #:** 251
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 9/25/2008 02:11:51

**Placement Information:**
- **Placement Start:**
  - **Time:** 9/25/2008 05:09:33
  - **Lat:** 42.429607
  - **Long:** -70.581562
  - **Aft Draft:** 20.25 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 9/25/2008 05:09:47
  - **Lat:** 42.429802
  - **Long:** -70.580914
  - **Aft Draft:** 8.07 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

**Material Source:** Unknown  **Material Description:** Unknown

**Wave Information Recorded:** 9/25/2008 12:42:00 AM (Local)

**Wave Height:** 2.3 ft  **Dominant Wave Period:** 8.0 sec  **NOAA Station:** 44013

---

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target. The hull status sensor indicated that the scow remained open throughout the return transit of load #251.

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com  **Version:** 092508_104526

---

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104794,104793,104795,1... 9/30/2008
Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>251</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug Name</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow Name</td>
<td>GL65</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5800 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>9/25/2008 02:11:51</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>20.25 ft</td>
</tr>
<tr>
<td>Init Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Material Source: Unknown
Material Description: Unknown

Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latitude: 42.429607</td>
<td>Latitude: 42.429802</td>
</tr>
<tr>
<td>Longitude: -70.581562</td>
<td>Longitude: -70.580914</td>
</tr>
</tbody>
</table>

Aft Draft: 20.25 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Data Information:

Type: ADISSPlay Data.
Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target. The hull status sensor indicated that the scow remained open throughout the return transit of load #251.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 092508_104526

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104794,104793,104795,1...
**Trip Information:**
- **Trip #:** 252
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 9/25/2008 14:52:44
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**
- **Placement Start:**
  - Time: 9/25/2008 17:35:57
  - Lat: 42.429328
  - Long: -70.585319
- **Placement End:**
  - Lat: 42.429435
  - Long: -70.584551

**Material:**
- **Source:** Unknown
- **Description:** Unknown

**Wave Information Recorded:**
- 9/25/2008 2:41:00 PM (Local)
- **Wave Height:** 3.0 ft
- **Dominant Wave Period:** 8.0 sec
- **NOAA Station:** 44013

**Notes:**
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:**
Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 092608_100434

---

The diagram shows the placement of material in the disposal site with NAD 83 coordinates and a map of the area.
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 252 Scow: GL63

Trip Information
- Trip #: 252
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Start Time: 9/25/2008 14:52:44
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 9/25/2008 17:35:57
  - Latitude: 42.429328
  - Longitude: -70.585319
- Placement End:
  - Latitude: 42.429435
  - Longitude: -70.584551

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISS Play Data.
- Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 092608_100434

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104794,104793,104795,1...  9/30/2008
### Trip Information:

<table>
<thead>
<tr>
<th>Trip #:</th>
<th>253</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug:</td>
<td>Unknown</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow:</td>
<td>GL65</td>
</tr>
<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
</tbody>
</table>

| Bin Volume: | 0 cu yd |
| Start Time: | 9/29/2008 05:03:07 |

- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:

<table>
<thead>
<tr>
<th>Placement Start:</th>
<th>Placement End:</th>
</tr>
</thead>
</table>

- **Aft Draft:** 20.32 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

### Material Source:

- Unknown

### Material Description:

- Unknown

### Wave Information Recorded:

- 9/29/2008 5:03:07 AM (Local)
- Wave Height: 3.9 ft
- Dominant Wave Period: 13.0 sec
- NOAA Station: 44013

### Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 100908_090235

---

10/14/2008
**2008 Boston Harbor Maintenance Dredging**

**Trip Information**
- **Trip #:** 253
- **Tug Name:** Captain(s): Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 0 cu yd
- **Start Time:** 9/29/2008 05:03:07
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**
- **Placement Start:**
  - **Time:** 9/29/2008 08:40:17
  - **Latitude:** 42.429926
  - **Longitude:** -70.581917
  - **Aft Draft:** 20.32 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 9/29/2008 08:40:29
  - **Latitude:** 42.430004
  - **Longitude:** -70.581448
  - **Aft Draft:** 8.51 ft
  - **Forward Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

**Material Source:** Unknown

**Material Description:** Unknown

**Data Information:**
- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 100908_090235

---

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104848,105016,104929,...  
10/14/2008
### Trip Information:

- **Trip #:** 254
- **Tug:** Liberty
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 9/29/2008 13:15:46
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:

- **Placement Start:**
  - **Time:** 9/29/2008 16:10:54
  - **Lat:** 42.425282
  - **Long:** -70.585871
  - **Aft Draft:** 18.61 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 9/29/2008 16:11:12
  - **Lat:** 42.425313
  - **Long:** -70.585110
  - **Aft Draft:** 11.63 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Material Information:

- **Material Source:** Unknown
- **Material Description:** Unknown

### Wave Information:

- **Wave Height:** 4.3 ft
- **Dominant Wave Period:** 10.0 sec
- **NOAA Station:** 44013

### Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 100208_161536

---

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104848,105016,104929,...  
10/14/2008
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 254 Scow: GL63

Initial Draft 18.53

Initial Disposal Speed 8.7

LEGEND: Transit Placement Return Transit

Trip Information:
- Trip #: 254
- Tug Name: Liberty
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
  Latitude: 42.425282
  Longitude: -70.585871
- Aft Draft: 18.61 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A
  Latitude: 42.425313
  Longitude: -70.585110
- Aft Draft: 11.63 ft
- Forward Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.

Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman Phone: (401)847-4210 E-mail: info@adiss-afiss.com
Version: 100208_161536

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 255
- Tug: Liberty
- Captain(s): Unknown
- Scow: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Init Aft Draft: 20.32 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
  - Lat: 42.428673
  - Long: -70.583991
  - Aft Draft: 20.32 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
  - Lat: 42.428837
  - Long: -70.583509
  - Aft Draft: 9.10 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 9/29/2008 7:43:00 PM (Local)
- Wave Height: 4.3 ft
- Dominant Wave Period: 9.0 sec
- NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 100208_161933

Draft / Speed for Trip: 255 Scow: GL65

<table>
<thead>
<tr>
<th>Trip Information</th>
<th>Placement Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trip #: 255</td>
<td>Placement Start:</td>
</tr>
<tr>
<td>Tug Name: Liberty</td>
<td>Time: 9/29/2008</td>
</tr>
<tr>
<td>Captain(s): Unknown</td>
<td>23:07:17</td>
</tr>
<tr>
<td>Scow Name: GL65</td>
<td>Lat: 42.428673</td>
</tr>
<tr>
<td>Type: Split Hull Scow</td>
<td>Lon: -70.583991</td>
</tr>
<tr>
<td>Technique: Bottom Dump</td>
<td>Aft Draft: 20.32 ft</td>
</tr>
<tr>
<td>Bin Volume: 5800 cu yd</td>
<td>Fore Draft: N/A</td>
</tr>
<tr>
<td>Start Time: 9/29/2008 20:12:47</td>
<td>Aft Bin: N/A</td>
</tr>
<tr>
<td>Init Aft Draft: 20.32 ft</td>
<td>Fore Bin: N/A</td>
</tr>
<tr>
<td>Init Fore Draft: N/A</td>
<td></td>
</tr>
<tr>
<td>Init Aft Bin: N/A</td>
<td></td>
</tr>
<tr>
<td>Init Fore Bin: N/A</td>
<td></td>
</tr>
</tbody>
</table>

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 100208_161933

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104848,105016,104929,...
### Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>256</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug</td>
<td>Liberty</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5800 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>9/30/2008 02:22:12</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>18.45 ft</td>
</tr>
<tr>
<td>Init Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time: 9/30/2008 05:02:41</td>
<td>Time: 9/30/2008 05:02:59</td>
</tr>
<tr>
<td>Lat: 42.424703</td>
<td>Lat: 42.424869</td>
</tr>
<tr>
<td>Long: -70.584226</td>
<td>Long: -70.583600</td>
</tr>
<tr>
<td>Aft Draft: 18.45 ft</td>
<td>Aft Draft: 12.02 ft</td>
</tr>
<tr>
<td>Fore Draft: N/A</td>
<td>Fore Draft: N/A</td>
</tr>
<tr>
<td>Aft Bin: N/A</td>
<td>Aft Bin: N/A</td>
</tr>
<tr>
<td>Fore Bin: N/A</td>
<td>Fore Bin: N/A</td>
</tr>
</tbody>
</table>

### Material Source:

| Unknown |

### Material Description:

| Unknown |

### Wave Information Recorded:

<table>
<thead>
<tr>
<th>Time: 9/30/2008 2:22:00 AM (Local)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wave Height: 2.6 ft</td>
</tr>
<tr>
<td>Dominant Wave Period: 10.0 sec</td>
</tr>
<tr>
<td>NOAA Station: 44013</td>
</tr>
</tbody>
</table>

### Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 100208_162348

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104848,105016,104929,...  
10/14/2008
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 256 Scow: GL63

Aft Draft: 18.45 ft
Initial Draft: 18.45 ft
Initial Disposal Speed: 6.4 knots

Placement Information:
Placement Start:
Time: 9/30/2008 05:02:41
Latitude: 42.424703
Longitude: -70.584226

Aft Draft: 12.02 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Time: 9/30/2008 05:02:59
Latitude: 42.424869
Longitude: -70.583600

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

Trip Information
Trip #: 256
Tug Name: Liberty
Captain(s): Unknown
Scow Name: GL63
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5800 cu yd
Start Time: 9/30/2008 02:22:12
Init Aft Draft: 18.45 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 100208_162348

### Trip Information:
- **Trip #:** 257
- **Tug:** Liberty
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 9/30/2008 08:56:31
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Time:** 9/30/2008
- **Lat:** 42.428987
- **Long:** -70.582667
- **Aft Draft:** 20.32 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Time:** 9/30/2008 11:50:20
- **Lat:** 42.429023
- **Long:** -70.582130
- **Aft Draft:** 9.10 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

### Material Information:
- **Material Source:** Unknown
- **Material Description:** Unknown

### Wave Information:
- **Wave Height:** 3.3 ft
- **Dominant Wave Period:** 8.0 sec
- **NOAA Station:** 44013

---

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 100208_162839

---

[Map Diagram]

**LEGEND:**  
- Transit  
- Placement  
- Return Transit  

**Hull Status:**  
- Closed / Unknown  
- Open

---

[Diagram Image]
**Draft / Speed for Trip: 257 Scow: GL65**

<table>
<thead>
<tr>
<th>Time</th>
<th>Speed (Knots)</th>
<th>Draft (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9AM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10AM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11AM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12PM</td>
<td></td>
<td>20.32</td>
</tr>
<tr>
<td>1PM</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>2PM</td>
<td></td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Placement Information:**
- **Time:** 9/30/2008 11:50:08
  - **Latitude:** 42.428987
  - **Longitude:** -70.582667
- **Time:** 9/30/2008 11:50:20
  - **Latitude:** 42.429023
  - **Longitude:** -70.582130

**Material Source:** Unknown
**Material Description:** Unknown

**Data Information:**
- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com

**Version:** 100208_162839
**Trip Information:**
- **Trip #:** 258
- **Tug:** Liberty
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 9/30/2008 14:47:23
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A
- **Material Source:** Unknown
- **Material Description:** Unknown

**Placement Information:**
- **Placement Start:**
  - **Time:** 9/30/2008 17:32:41
  - **Lat:** 42.426342
  - **Long:** -70.582212
  - **Aft Draft:** 18.53 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 9/30/2008 17:32:57
  - **Lat:** 42.426434
  - **Long:** -70.581525
  - **Aft Draft:** 12.58 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

**Wave Information Recorded:**
- **Date:** 9/30/2008 2:40:00 PM (Local)
- **Wave Height:** 3.6 ft
- **Dominant Wave Period:** 14.0 sec
- **NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target. The gaps in return transit data between 9:42 PM and 9:50 PM (GMT) on 9/30/08 are due to the ADISS tracking system on-board the GL63 losing GPS signal. SAIC will continue to monitor for problems.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

Version: 100208_163540
Trip Information:

- **Trip #:** 258
- **Tug Name:** Liberty
- **Captain(s):** Unknown
- **Scow Name:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 9/30/2008 14:47:23
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

Material Source: Unknown  
Material Description: Unknown

Data Information:

- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target. The gaps in return transit data between 9:42 PM and 9:50 PM (GMT) on 9/30/08 are due to the ADISS tracking system on-board the GL63 losing GPS signal. SAIC will continue to monitor for problems.

SAIC Point of Contact: Marc Wakeman  
Phone: (401)847-4210  
E-mail: info@adiss-afiss.com

2008 Boston Harbor Maintenance Dredging

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104848,105016,104929,...  
10/14/2008
### Trip Information:
- **Trip #:** 259
- **Tug:** Liberty
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 9/30/2008 20:46:06

### Placement Information:
- **Placement Start:**
  - **Time:** 9/30/2008 23:36:54
  - **Lat:** 42.428438
  - **Long:** -70.584516
  - **Aft Draft:** 20.32 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 9/30/2008 23:37:06
  - **Lat:** 42.428491
  - **Long:** -70.583967
  - **Aft Draft:** 8.22 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 9/30/2008 8:13:00 PM (Local)  
**Wave Height:** 3.9 ft  
**Dominant Wave Period:** 11.0 sec  
**NOAA Station:** 44013

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 100208_163815
Trip Information:
- Trip #: 259
- Tug Name: Liberty
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Start Time: 9/30/2008 20:46:06
- Init Aft Draft: 20.32 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 9/30/2008 23:36:54
  - Latitude: 42.428438
  - Longitude: -70.584516
  - Aft Draft: 20.32 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 9/30/2008 23:37:06
  - Latitude: 42.428491
  - Longitude: -70.583967
  - Aft Draft: 8.22 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 100208_163815

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

### Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>260</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug</td>
<td>Liberty</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
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<tr>
<td>Scow</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5800 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>10/1/2008 02:34:59</td>
</tr>
</tbody>
</table>

**Init Aft Draft:** 18.45 ft  
**Init Fore Draft:** N/A  
**Init Aft Bin:** N/A  
**Init Fore Bin:** N/A

### Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>Time</td>
</tr>
<tr>
<td>10/1/2008</td>
<td>10/1/2008</td>
</tr>
</tbody>
</table>

**Aft Draft:** 18.53 ft  
**Aft Draft:** 12.66 ft  
**Fore Draft:** N/A  
**Fore Draft:** N/A  
**Aft Bin:** N/A  
**Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 10/1/2008 2:33:00 AM (Local)  
**Wave Height:** 4.9 ft  
**Dominant Wave Period:** 13.0 sec  
**NOAA Station:** 44013

---

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 100208_164113
Draft / Speed for Trip: 260 Scow: GL63

Trip Information:
- Trip #: 260
- Tug Name: Liberty
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Start Time: 10/1/2008 02:34:59
- Init Aft Draft: 18.45 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start: Time: 10/1/2008 05:14:47
  - Latitude: 42.424887
  - Longitude: -70.584882
- Placement End: Time: 10/1/2008 05:15:03
  - Latitude: 42.424912
  - Longitude: -70.584134
- Aft Draft: 18.53 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 100208_164113

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023
**Trip Information:**

<table>
<thead>
<tr>
<th>Trip #:</th>
<th>261</th>
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<tbody>
<tr>
<td>Tug:</td>
<td>Liberty</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow:</td>
<td>GL65</td>
</tr>
<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>5800 cu yd</td>
</tr>
<tr>
<td>Start Time:</td>
<td>10/1/2008 09:08:12</td>
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</table>

**Placement Information:**

<table>
<thead>
<tr>
<th>Placement Start:</th>
<th>Placement End:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time:</td>
<td>Time:</td>
</tr>
<tr>
<td>10/1/2008</td>
<td>10/1/2008</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Aft Draft:</th>
<th>For Draft:</th>
<th>Aft Bin:</th>
<th>Fore Bin:</th>
</tr>
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<tbody>
<tr>
<td>Init:</td>
<td>Aft Draft:</td>
<td>Init:</td>
<td>Fore Draft:</td>
</tr>
<tr>
<td>20.32 ft</td>
<td>20.32 ft</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Aft Bin:</td>
<td>Aft Bin:</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 10/1/2008 1:23:00 PM (Local)

**Wave Height:** 3.9 ft  
**Dominant Wave Period:** 13.0 sec  
**NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 100208_164639

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104848,105016,104929,...  
10/14/2008
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 261 Scow: GL65

1 Wed Oct 2008

LEGEND: Transit Placement Return Transit

Trip Information
- Trip #: 261
- Tug Name: Liberty
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Start Time: 10/1/2008 09:08:12
- Init Aft Draft: 20.32 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Material Source: Unknown Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

Placement Information:
- Placement Start:
  - Time: 10/1/2008 12:22:38
  - Latitude: 42.429421
  - Longitude: -70.584164
  - Aft Draft: 20.32 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Forward Bin: N/A
- Placement End:
  - Time: 10/1/2008 12:22:50
  - Latitude: 42.429474
  - Longitude: -70.583693
  - Aft Draft: 8.88 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Forward Bin: N/A

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 100208_164639
### Trip Information:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trip #:</td>
<td>262</td>
</tr>
<tr>
<td>Tug:</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow:</td>
<td>GL63</td>
</tr>
<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>5800 cu yd</td>
</tr>
<tr>
<td>Start Time:</td>
<td>10/1/2008 20:31:27</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>18.45 ft</td>
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<tr>
<td>Init Fore Bin</td>
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<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Draft</td>
<td>N/A</td>
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<tr>
<td>Material Source</td>
<td>Unknown</td>
</tr>
<tr>
<td>Material Description</td>
<td>Unknown</td>
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### Placement Information:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Placement Start</td>
<td>Time: 10/1/2008 23:25:59</td>
</tr>
<tr>
<td>Placement End</td>
<td>Time: 10/1/2008 23:26:17</td>
</tr>
<tr>
<td>Lat:</td>
<td>42.430008</td>
</tr>
<tr>
<td>Long:</td>
<td>-70.582063</td>
</tr>
<tr>
<td>Aft Draft:</td>
<td>18.45 ft</td>
</tr>
<tr>
<td>Fore Draft:</td>
<td>N/A</td>
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<tr>
<td>Aft Bin:</td>
<td>N/A</td>
</tr>
<tr>
<td>Fore Bin:</td>
<td>N/A</td>
</tr>
<tr>
<td>Aft Bin:</td>
<td>N/A</td>
</tr>
<tr>
<td>Fore Bin:</td>
<td>N/A</td>
</tr>
<tr>
<td>Wave Information Recorded</td>
<td>10/1/2008 8:23:00 PM (Local)</td>
</tr>
<tr>
<td>Wave Height:</td>
<td>3.6 ft</td>
</tr>
<tr>
<td>Dominant Wave Period:</td>
<td>11.0 sec</td>
</tr>
<tr>
<td>NOAA Station:</td>
<td>44013</td>
</tr>
</tbody>
</table>

### Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 100208_164956

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104848,105016,104929,...  
10/14/2008
### Trip Information

- **Trip #:** 262
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 10/1/2008 20:31:27
- **Init Aft Draft:** 18.45 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information

- **Placement Start:**
  - **Time:** 10/1/2008 23:25:59
  - **Latitude:** 42.430008
  - **Longitude:** -70.582063
  - **Aft Draft:** 18.45 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 10/1/2008 23:26:17
  - **Latitude:** 42.430056
  - **Longitude:** -70.581139
  - **Aft Draft:** 12.42 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Material Information

- **Material Source:** Unknown
- **Material Description:** Unknown

### Data Information:

- **Type:** ADISSPlay Data.
- **Notes:**
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**SAIC Point of Contact:**

- **Marc Wakeman**
- **Phone:** (401)847-4210
- **E-mail:** info@adiss-afiss.com

**Version:** 100208_164956

---

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

<table>
<thead>
<tr>
<th><strong>Trip Information:</strong></th>
<th><strong>Placement Information:</strong></th>
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</thead>
<tbody>
<tr>
<td><strong>Trip #:</strong> 263</td>
<td><strong>Placement Start:</strong></td>
</tr>
<tr>
<td><strong>Tug:</strong> Lemmerhirt</td>
<td><strong>Time:</strong> 10/2/2008</td>
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<tr>
<td><strong>Captain(s):</strong> Unknown</td>
<td><strong>Time:</strong> 05:14:38</td>
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<tr>
<td><strong>Scow:</strong> GL65</td>
<td><strong>Lat:</strong> 42.429302</td>
</tr>
<tr>
<td><strong>Type:</strong> Split Hull Scow</td>
<td><strong>Long:</strong> -70.581312</td>
</tr>
<tr>
<td><strong>Technique:</strong> Bottom Dump</td>
<td><strong>Lat:</strong> 42.429418</td>
</tr>
<tr>
<td><strong>Bin Volume:</strong> 5800 cu yd</td>
<td><strong>Long:</strong> -70.580487</td>
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<td><strong>Start Time:</strong> 10/2/2008 02:30:46</td>
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<tr>
<td><strong>Init Aft Draft:</strong> 20.32 ft</td>
<td><strong>Aft Draft:</strong> 20.32 ft</td>
</tr>
<tr>
<td><strong>Init Fore Draft:</strong> N/A</td>
<td><strong>Aft Draft:</strong> 8.36 ft</td>
</tr>
<tr>
<td><strong>Init Aft Bin:</strong> N/A</td>
<td><strong>Fore Draft:</strong> N/A</td>
</tr>
<tr>
<td><strong>Init Fore Bin:</strong> N/A</td>
<td><strong>Aft Bin:</strong> N/A</td>
</tr>
<tr>
<td><strong>Material Source:</strong> Unknown</td>
<td><strong>Fore Bin:</strong> N/A</td>
</tr>
<tr>
<td><strong>Material Description:</strong> Unknown</td>
<td></td>
</tr>
</tbody>
</table>

**Wave Information Recorded:** 10/2/2008 2:22:00 AM (Local)

**Wave Height:** 3.0 ft  
**Dominant Wave Period:** 11.0 sec  
**NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 100208_165700
**Draft / Speed for Trip: 263 Scow: GL65**

<table>
<thead>
<tr>
<th>Time</th>
<th>Aft Draft</th>
<th>Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 AM</td>
<td>20.32 ft</td>
<td></td>
</tr>
<tr>
<td>4 AM</td>
<td>20.32 ft</td>
<td></td>
</tr>
<tr>
<td>5 AM</td>
<td>20.32 ft</td>
<td></td>
</tr>
<tr>
<td>6 AM</td>
<td>20.32 ft</td>
<td></td>
</tr>
<tr>
<td>7 AM</td>
<td>20.32 ft</td>
<td></td>
</tr>
</tbody>
</table>

**Placement Information:**

- **Start Time:** 10/2/2008 05:14:38
- **Latitude:** 42.429302
- **Longitude:** -70.581312
- **Aft Draft:** 20.32 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **End Time:** 10/2/2008 05:14:54
- **Latitude:** 42.429418
- **Longitude:** -70.580487
- **Aft Draft:** 8.36 ft
- **Forward Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Data Information:**

- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 100208_165700
### Trip Information:
- **Trip #:** 264
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 10/2/2008 08:17:18
- **Init Aft Draft:** 18.45 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start: Time:** 10/2/2008 11:09:33
  - **Lat:** 42.429467
  - **Long:** -70.581228
  - **Aft Draft:** 18.53 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **Placement End: Time:** 10/2/2008 11:09:49
  - **Lat:** 42.429655
  - **Long:** -70.580447
  - **Aft Draft:** 12.42 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Material Information:
- **Material Source:** Unknown
- **Material Description:** Unknown

### Wave Information:
- **Date:** 10/2/2008
- **Time:** 8:16:00 AM (Local)
- **Wave Height:** 3.3 ft
- **Dominant Wave Period:** 11.0 sec
- **NOAA Station:** 44013

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 100208_170245
Draft / Speed for Trip: 264 Scow: GL63

Trip Information:
- Trip #: 264
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Start Time: 10/2/2008 08:17:18
- Init Aft Draft: 18.45 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 10/2/2008 11:09:33
  - Latitude: 42.429467
  - Longitude: -70.581228
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 10/2/2008 11:09:49
  - Latitude: 42.429655
  - Longitude: -70.580447
  - Aft Draft: 12.42 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 100208_170245

## Trip Information:

- **Trip #:** 265
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 10/2/2008 14:22:50

### Placement Information:

<table>
<thead>
<tr>
<th>Placement Start</th>
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</thead>
<tbody>
<tr>
<td>Time: 10/2/2008 17:00:09</td>
<td>Time: 10/2/2008 17:00:21</td>
</tr>
</tbody>
</table>

- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A
- **Aft Draft:** 20.32 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Material Source:** Unknown
- **Material Description:** Unknown

### Wave Information Recorded:

- **Wave Height:** 3.9 ft
- **Dominant Wave Period:** 4.0 sec
- **NOAA Station:** 44013

### Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 100308_105833  
**Page 27 of 43**
**Draft / Speed for Trip: 265 Scow: GL65**

**Trip Information:**
- Trip #: 265
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Start Time: 10/2/2008 14:22:50
- Init Aft Draft: 20.32 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

**Placement Information:**
- Placement Start:
  - Time: 10/2/2008 17:00:09
  - Latitude: 42.429041
  - Longitude: -70.581355
- Placement End:
  - Time: 10/2/2008 17:00:21
  - Latitude: 42.429187
  - Longitude: -70.580725
- Aft Draft: 20.32 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

**Data Information:**
- Type: ADISSPlay Data.
- Notes:
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

---

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104848,105016,104929,...  
10/14/2008
**Trip Information:**

<table>
<thead>
<tr>
<th>Trip #</th>
<th>266</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5800 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>10/2/2008 20:55:41</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>18.45 ft</td>
</tr>
<tr>
<td>Init Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Placement Information:**

<table>
<thead>
<tr>
<th>Placement Start</th>
<th>Placement End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lat: 42.429493</td>
<td>Lat: 42.429627</td>
</tr>
<tr>
<td>Long: -70.581400</td>
<td>Long: -70.580612</td>
</tr>
<tr>
<td>Aft Draft: 18.45 ft</td>
<td>Aft Draft: 12.18 ft</td>
</tr>
<tr>
<td>Fore Draft: N/A</td>
<td>Fore Draft: N/A</td>
</tr>
<tr>
<td>Aft Bin: N/A</td>
<td>Aft Bin: N/A</td>
</tr>
<tr>
<td>Fore Bin: N/A</td>
<td>Fore Bin: N/A</td>
</tr>
</tbody>
</table>

**Material Source:** Unknown

**Material Description:** Unknown

**Wave Information Recorded:** 10/2/2008 8:48:00 PM (Local)

**Wave Height:** Not Avail. **Dominant Wave Period:** Not Avail. **NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com

**Version:** 100308_105854

---

**Legend:**
- Transit
- Placement
- Return Transit

**Hull Status:**
- Closed / Unknown
- Open

---

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 266 Scow: GL63

<table>
<thead>
<tr>
<th>Time</th>
<th>Speed (Knots)</th>
<th>Draft (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9PM</td>
<td>0</td>
<td>17.5</td>
</tr>
<tr>
<td>10PM</td>
<td>0</td>
<td>17.5</td>
</tr>
<tr>
<td>11PM</td>
<td>0</td>
<td>17.5</td>
</tr>
<tr>
<td>3 AM</td>
<td>7.9</td>
<td>18.45</td>
</tr>
<tr>
<td>1 AM</td>
<td>7.9</td>
<td>18.45</td>
</tr>
<tr>
<td>2 AM</td>
<td>7.9</td>
<td>18.45</td>
</tr>
</tbody>
</table>

Placement Information:
- Placement Start: 10/2/2008 23:43:38
- Latitude: 42.429493
- Longitude: -70.581400
- Aft Draft: 18.45 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A
- Placement End: 10/2/2008 23:43:54
- Latitude: 42.429627
- Longitude: -70.580612
- Aft Draft: 12.18 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Data Information:
- Type: ADISSPlay Data.
- Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 100308_105854

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104848,105016,104929,...
<table>
<thead>
<tr>
<th>Trip Information:</th>
<th>Placement Information:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trip #: 267</td>
<td>Placement Start:</td>
</tr>
<tr>
<td>Captain(s): Unknown</td>
<td>05:54:27</td>
</tr>
<tr>
<td>Scow: GL65</td>
<td>Placement End:</td>
</tr>
<tr>
<td>Type: Split Hull Scow</td>
<td>Time: 10/3/2008</td>
</tr>
<tr>
<td>Technique: Bottom Dump</td>
<td>05:54:39</td>
</tr>
<tr>
<td>Bin Volume: 5800 cu yd</td>
<td></td>
</tr>
<tr>
<td>Start Time: 10/3/2008 03:12:27</td>
<td></td>
</tr>
<tr>
<td>Init Aft Draft: 20.25 ft</td>
<td>Aft Draft: 20.25 ft</td>
</tr>
<tr>
<td>Init Fore Draft: N/A</td>
<td>Aft Draft: 7.99 ft</td>
</tr>
<tr>
<td>Init Aft Bin: N/A</td>
<td>Fore Draft: N/A</td>
</tr>
<tr>
<td>Init Fore Bin: N/A</td>
<td>Fore Draft: N/A</td>
</tr>
<tr>
<td>Material Source: Unknown</td>
<td>Material Description: Unknown</td>
</tr>
<tr>
<td>Wave Information Recorded: 10/3/2008 3:21:00 AM (Local)</td>
<td>Wave Height: 2.0 ft</td>
</tr>
<tr>
<td>Wave Height: 2.0 ft</td>
<td>Dominant Wave Period: 3.0 sec</td>
</tr>
<tr>
<td>Wave Height: 2.0 ft</td>
<td>NOAA Station: 44013</td>
</tr>
</tbody>
</table>

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 100308_105910
Trip Information:
- Trip #: 267
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Start Time: 10/3/2008 03:12:27
- Init Aft Draft: 20.25 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 10/3/2008 05:54:27
  - Latitude: 42.429692
  - Longitude: -70.581916
- Placement End:
  - Time: 10/3/2008 05:54:39
  - Latitude: 42.429800
  - Longitude: -70.581259
- Aft Draft: 7.99 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 100308_105910
### Trip Information:
- **Trip #:** 268
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 10/4/2008 02:32:11
- **Init Aft Draft:** 20.25 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:**
  - **Time:** 10/4/2008 05:07:59
  - **Lat:** 42.429190
  - **Long:** -70.581454
  - **Aft Draft:** 20.25 ft
  - **Aft Bin:** N/A
- **Placement End:**
  - **Time:** 10/4/2008 05:08:13
  - **Lat:** 42.429314
  - **Long:** -70.580665
  - **Aft Draft:** 8.66 ft
  - **Aft Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 10/4/2008 5:05:00 AM (Local)  
**Wave Height:** 2.0 ft  
**Dominant Wave Period:** 3.0 sec  
**NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 100708_141925
Draft / Speed for Trip: 268 Scow: GL65

Trip Information:
- Trip #: 268
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Start Time: 10/4/2008 02:32:11
- Init Aft Draft: 20.25 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 10/4/2008 05:07:59
  - Latitude: 42.429190
  - Longitude: -70.581454
  - Aft Draft: 20.25 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 10/4/2008 05:08:13
  - Latitude: 42.429314
  - Longitude: -70.580665
  - Aft Draft: 8.66 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 100708_141925

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=104848,105016,104929,...
**Trip Information:**

- **Trip #:** 269
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 10/4/2008 07:50:22
- **Init Aft Draft:** 18.45 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**

- **Placement Start:**
  - Time: 10/4/2008 10:51:50
  - Lat: 42.429851
  - Long: -70.581992
- **Placement End:**
  - Time: 10/4/2008 10:52:06
  - Lat: 42.430006
  - Long: -70.581171

**Material Source:** Unknown

**Material Description:** Unknown

**Wave Information Recorded:**

- **Wave Height:** 2.3 ft
- **Dominant Wave Period:** 3.0 sec
- **NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  
Phone: (401)847-4210  E-mail: info@adiss-afiss.com

Version: 100608_193203
Trip Information:
- Trip #: 269
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Init Aft Draft: 18.45 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 10/4/2008 10:51:50
  - Latitude: 42.429851
  - Longitude: -70.581992
- Placement End:
  - Time: 10/4/2008 10:52:06
  - Latitude: 42.430006
  - Longitude: -70.581171
- Aft Draft: 18.45 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 100608_193203
### Trip Information:

- **Trip #:** 270
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 0 cu yd
- **Start Time:** 10/4/2008 18:03:17

### Placement Information:

<table>
<thead>
<tr>
<th>Start Time</th>
<th>Aft Draft (ft)</th>
<th>Aft Draft (ft)</th>
<th>Fore Draft (ft)</th>
<th>Fore Draft (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/4/2008 20:39:01</td>
<td>20.32</td>
<td>20.32</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>10/4/2008 20:39:17</td>
<td>7.70</td>
<td>7.70</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

- **Material Source:** Unknown
- **Material Description:** Unknown

- **Wave Information Recorded:** N/A (Local)
- **Wave Height:** Not Avail.
- **Dominant Wave Period:** Not Avail.
- **NOAA Station:** Not Avail.

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 100708_141902
Trip Information:
- Trip #: 270
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 0 cu yd
- Start Time: 10/4/2008 18:03:17
- Init Aft Draft: 20.32 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 10/4/2008 20:39:01
  - Latitude: 42.429137
  - Longitude: -70.581825
  - Aft Draft: 20.32 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Latitude: 42.429298
  - Longitude: -70.580983
  - Aft Draft: 7.70 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 100708_141902

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

<table>
<thead>
<tr>
<th><strong>Trip Information:</strong></th>
<th><strong>Placement Information:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trip #:</strong> 271</td>
<td><strong>Placement Start:</strong></td>
</tr>
<tr>
<td><strong>Tug:</strong> Lemmerhirt</td>
<td><strong>Time:</strong> 10/5/2008</td>
</tr>
<tr>
<td><strong>Captain(s):</strong> Unknown</td>
<td><strong>Time:</strong> 10/5/2008</td>
</tr>
<tr>
<td><strong>Scow:</strong> GL63</td>
<td><strong>Lat:</strong> 42.428910</td>
</tr>
<tr>
<td><strong>Type:</strong> Split Hull Scow</td>
<td><strong>Long:</strong> -70.581411</td>
</tr>
<tr>
<td><strong>Technique:</strong> Bottom Dump</td>
<td><strong>Lat:</strong> 42.429065</td>
</tr>
<tr>
<td><strong>Bin Volume:</strong> 5800 cu yd</td>
<td><strong>Long:</strong> -70.580566</td>
</tr>
<tr>
<td><strong>Start Time:</strong> 10/5/2008 03:18:08</td>
<td><strong>Init Aft Draft:</strong> 18.45 ft</td>
</tr>
<tr>
<td></td>
<td><strong>Aft Draft:</strong> 18.45 ft</td>
</tr>
<tr>
<td></td>
<td><strong>Aft Draft:</strong> 11.23 ft</td>
</tr>
<tr>
<td></td>
<td><strong>Init Fore Draft:</strong> N/A</td>
</tr>
<tr>
<td></td>
<td><strong>Fore Draft:</strong> N/A</td>
</tr>
<tr>
<td></td>
<td><strong>Init Fore Bin:</strong> N/A</td>
</tr>
<tr>
<td></td>
<td><strong>Aft Bin:</strong> N/A</td>
</tr>
<tr>
<td></td>
<td><strong>Fore Bin:</strong> N/A</td>
</tr>
<tr>
<td><strong>Material Source:</strong> Unknown</td>
<td><strong>Material Description:</strong> Unknown</td>
</tr>
<tr>
<td><strong>Wave Information Recorded:</strong> 10/5/2008 3:01:00 AM (Local)</td>
<td></td>
</tr>
<tr>
<td><strong>Wave Height:</strong> 1.3 ft</td>
<td><strong>Dominant Wave Period:</strong> 3.0 sec</td>
</tr>
<tr>
<td><strong>NOAA Station:</strong> 44013</td>
<td><strong>Notes:</strong> SAIC designated placement locations illustrate a successful placement of material in disposal site target.</td>
</tr>
</tbody>
</table>

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com

**Version:** 100608_193226

Trip Information:
- Trip #: 271
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Start Time: 10/5/2008 03:18:08
- Init Aft Draft: 18.45 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 10/5/2008 05:58:46
  - Latitude: 42.428910
  - Longitude: -70.581411
  - Aft Draft: 18.45 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 10/5/2008 05:59:02
  - Latitude: 42.429065
  - Longitude: -70.580566
  - Aft Draft: 11.23 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 100608_193226
### Trip Information:

- **Trip #:** 272
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 10/13/2008 11:34:16
- **Init Aft Draft:** 18.53 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:

- **Placement Start:**
  - **Time:** 10/13/2008 14:10:28
  - **Lat:** 42.429457
  - **Long:** -70.580945
  - **Aft Draft:** 18.53 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 10/13/2008 14:10:44
  - **Lat:** 42.429641
  - **Long:** -70.580087
  - **Aft Draft:** 12.90 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 10/13/2008 12:20:00 PM (Local)

**Wave Height:** Not Avail.  
**Dominant Wave Period:** Not Avail.  
**NOAA Station:** Not Avail.

### Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 272 Scow: GL63

<table>
<thead>
<tr>
<th>Time</th>
<th>_speed</th>
<th>Draft (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2PM</td>
<td>7.2</td>
<td>13.9</td>
</tr>
<tr>
<td>3PM</td>
<td>4.6</td>
<td>12.3</td>
</tr>
<tr>
<td>4PM</td>
<td>2.8</td>
<td>11.5</td>
</tr>
<tr>
<td>11PM</td>
<td>0.0</td>
<td>10.0</td>
</tr>
<tr>
<td>12PM</td>
<td>0.0</td>
<td>10.0</td>
</tr>
</tbody>
</table>

Placement Information:

- **Placement Start:**
  - Time: 10/13/2008 14:10:28
  - Latitude: 42.429457
  - Longitude: -70.580945
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- **Placement End:**
  - Time: 10/13/2008 14:10:44
  - Latitude: 42.429641
  - Longitude: -70.580087
  - Aft Draft: 12.90 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:

Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 101408_115834
### Trip Information:
- **Trip #:** 273
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 6000 cu yd
- **Start Time:** 10/13/2008 19:18:49
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Time:** 10/13/2008 22:17:49
- **Lat:** 42.429507
- **Long:** -70.579681
- **Aft Draft:** 20.32 ft
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Time:** 10/13/2008 22:17:58
- **Lat:** 42.429623
- **Long:** -70.579075
- **Aft Draft:** 8.22 ft
- **Aft Bin:** N/A
- **Fore Bin:** N/A

### Material Source:
- Unknown

### Material Description:
- Unknown

### Wave Information Recorded:
- 10/13/2008 7:11:00 PM (Local)
- Wave Height: 1.6 ft
- Dominant Wave Period: 4.0 sec
- NOAA Station: 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 111808_112058
Draft / Speed for Trip: 273 Scow: GL65

Placement Information:
- Placement Start: 10/13/2008 22:17:46
- Latitude: 42.429507
- Longitude: -70.579681
- Aft Draft: 20.32 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Placement End:
- Time: 10/13/2008 22:17:58
- Latitude: 42.429623
- Longitude: -70.579075
- Aft Draft: 8.22 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.
### Trip Information:
- **Trip #:** 274
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5850 cu yd
- **Start Time:** 10/14/2008 02:39:46
- **Init Aft Draft:** 18.45 ft
- **Init Aft Bin:** N/A
- **Init Fore Draft:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:**
  - **Time:** 10/14/2008 05:36:54
  - **Lat:** 42.429368
  - **Long:** -70.581795
  - **Aft Draft:** 18.45 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 10/14/2008 05:37:09
  - **Lat:** 42.429489
  - **Long:** -70.581095
  - **Aft Draft:** 12.34 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

### Material Information:
- **Material Source:** Unknown
- **Material Description:** Unknown

### Wave Information:
- **Wave Height:** 2.0 ft
- **Dominant Wave Period:** 5.0 sec
- **NOAA Station:** 44013

### Map:
- Map showing the placement locations.

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

### SAIC Point of Contact:
- **Marc Wakeman**
- **Phone:** (401)847-4210
- **E-mail:** info@adiss-afiss.com

**Version:** 101408_120306
**Trip Information**

- **Trip #:** 274
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5850 cu yd
- **Start Time:** 10/14/2008 02:39:46
- **Init Aft Draft:** 18.45 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**

- **Placement Start:**
  - **Time:** 10/14/2008 05:36:54
  - **Latitude:** 42.429368
  - **Longitude:** -70.581795

- **Placement End:**
  - **Time:** 10/14/2008 05:37:09
  - **Latitude:** 42.429489
  - **Longitude:** -70.581095

**Material Source:** Unknown
**Material Description:** Unknown

**Data Information:**

- **Type:** ADISS Play Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 101408_120306

---

**2008 Boston Harbor Maintenance Dredging**  
**W912WJ-07-C-0023**
Trip Information:

- **Trip #:** 275
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5900 cu yd
- **Start Time:** 10/14/2008 10:35:28

Placement Information:

- **Placement Start:**
  - Time: 10/14/2008 13:18:36
  - Lat: 42.430510
  - Long: -70.581384
  - Aft Draft: 16.63 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- **Placement End:**
  - Time: 10/14/2008 13:18:44
  - Lat: 42.430495
  - Long: -70.580951
  - Aft Draft: 20.32 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown  
Material Description: Unknown  
Wave Information Recorded: 10/14/2008 1:26:00 PM (Local)  
Wave Height: 2.6 ft  
Dominant Wave Period: 6.0 sec  
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target. The fluctuations in draft readings during the out-bound transit of load #275 are due to the draft sensor being incorrectly installed. Great Lakes personnel contacted SAIC on 10/15/08 and reported that while the scow was in dry dock being repaired, the draft sensor was removed and the stilling well was repositioned. After repairs were completed, the draft sensor was incorrectly re-installed. The sensor was not placed in the stilling well as is normal, but was simply placed in the ram well.

SAIC Point of Contact: Marc Wakeman  
Phone: (401)847-4210  
E-mail: info@adiss-afiss.com
# Draft / Speed for Trip: 275 Scow: GL65

<table>
<thead>
<tr>
<th>Time</th>
<th>Speed (knots)</th>
<th>Draft (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11AM</td>
<td>5.0</td>
<td>19.07</td>
</tr>
<tr>
<td>12PM</td>
<td>4.5</td>
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<td>1PM</td>
<td>4.0</td>
<td>19.07</td>
</tr>
<tr>
<td>2PM</td>
<td>3.5</td>
<td>19.07</td>
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<td>19.07</td>
</tr>
<tr>
<td>4PM</td>
<td>2.5</td>
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## Placement Information

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Time</td>
<td>Time</td>
</tr>
<tr>
<td>Latitude</td>
<td>Longitude</td>
</tr>
<tr>
<td>42.430510</td>
<td>-70.581384</td>
</tr>
<tr>
<td>Aft Draft</td>
<td>Forward Draft</td>
</tr>
<tr>
<td>16.63 ft</td>
<td>N/A</td>
</tr>
<tr>
<td>Fore Draft</td>
<td>Aft Bin</td>
</tr>
<tr>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Aft Bin</td>
<td>Fore Bin</td>
</tr>
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## Trip Information

<table>
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<tr>
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<th>275</th>
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<tbody>
<tr>
<td>Tug Name</td>
<td>Lemmerhirt</td>
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<tr>
<td>Captain(s)</td>
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</tr>
<tr>
<td>Scow Name</td>
<td>GL65</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5900 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>10/14/2008 10:35:28</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>19.07 ft</td>
</tr>
<tr>
<td>Init Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
<td>N/A</td>
</tr>
</tbody>
</table>

## Material Information

- **Source**: Unknown
- **Description**: Unknown

## Data Information

**Type**: ADISSPlay Data.
**Notes**: SAIC designated placement locations illustrate a successful placement of material in disposal site target. The fluctuations in draft readings during the out-bound transit of load #275 are due to the draft sensor being incorrectly installed. Great Lakes personnel contacted SAIC on 10/15/08 and reported that while the scow was in dry dock being repaired, the draft sensor was removed and the stilling well was repositioned. After repairs were completed, the draft sensor was incorrectly re-installed. The sensor was not placed in the stilling well as is normal, but was simply placed in the ram well.

**SAIC Point of Contact**: Marc Wakeman
**Phone**: (401)847-4210
**E-mail**: info@adiss-afiss.com

Version: 101508_130430
## Trip Information:
- **Trip #:** 276
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5600 cu yd
- **Start Time:** 10/14/2008 17:56:40
- **Init Aft Draft:** 18.45 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

## Placement Information:
- **Placement Start:**
  - **Time:** 10/14/2008 20:45:32
  - **Lat:** 42.430019
  - **Long:** -70.580854
  - **Aft Draft:** 18.53 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 10/14/2008 20:45:48
  - **Lat:** 42.430140
  - **Long:** -70.580017
  - **Aft Draft:** 11.70 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:**
- **Wave Height:** Not Avail.
- **Dominant Wave Period:** Not Avail.
- **NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target. The apparent gap in out-bound transit data between 7:39 PM and 7:53 PM on 10/14/08 (Local) is the result of faulty GPS readings. SAIC intends on replacing the GPS antenna installed on the GL63 on 10/15/08.
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 276 Scow: GL63

Initial Draft: 18.45
Initial Disposal Speed: 8.1

Trip Information

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<tr>
<th>Trip #</th>
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<tbody>
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<td>Tug Name</td>
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</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow Name</td>
<td>GL63</td>
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<tr>
<td>Type</td>
<td>Split Hull Scow</td>
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<td>Technique</td>
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<tr>
<td>Bin Volume</td>
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</tr>
<tr>
<td>Start Time</td>
<td>10/14/2008 17:56:40</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>18.45 ft</td>
</tr>
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<td>Init Fore Draft</td>
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<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
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Material Source: Unknown Material Description: Unknown

Placement Information:

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<th>Placement Start</th>
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<tbody>
<tr>
<td>Latitude</td>
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<tr>
<td>Longitude</td>
<td>-70.580854</td>
</tr>
<tr>
<td>Aft Draft</td>
<td>18.53 ft</td>
</tr>
<tr>
<td>Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Fore Bin</td>
<td>N/A</td>
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<table>
<thead>
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<th>Placement End</th>
<th>Time: 10/14/2008 20:45:48</th>
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<td>Longitude</td>
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<td>Fore Draft</td>
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<tr>
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<td>N/A</td>
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<tr>
<td>Fore Bin</td>
<td>N/A</td>
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Data Information:

Type: ADISSPlay Data.

Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target. The apparent gap in out-bound transit data between 7:39 PM and 7:53 PM on 10/14/08 (Local) is the result of faulty GPS readings. SAIC intends on replacing the GPS antenna installed on the GL63 on 10/15/08.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com

**Trip Information:**

<table>
<thead>
<tr>
<th>Trip #:</th>
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<th>Tug:</th>
<th>Lemmerhirt</th>
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<tr>
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<tr>
<td>Scow:</td>
<td>GL65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>5500 cu yd</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Start Time:</td>
<td>10/15/2008 00:53:52</td>
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<table>
<thead>
<tr>
<th>Init Aft Draft:</th>
<th>20.32 ft</th>
<th>Aft Draft:</th>
<th>18.62 ft</th>
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</thead>
<tbody>
<tr>
<td>Init Fore Draft:</td>
<td>N/A</td>
<td>Fore Draft:</td>
<td>N/A</td>
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<tr>
<td>Init Aft Bin:</td>
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</tr>
<tr>
<td>Init Fore Bin:</td>
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**Placement Information:**

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<tbody>
<tr>
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</tr>
<tr>
<td>Long:</td>
<td>-70.581656</td>
</tr>
<tr>
<td>Aft Draft:</td>
<td>18.62 ft</td>
</tr>
<tr>
<td>Aft Bin:</td>
<td>N/A</td>
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<tr>
<td>Fore Draft:</td>
<td>N/A</td>
</tr>
<tr>
<td>Fore Bin:</td>
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</tr>
</tbody>
</table>

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 10/15/2008 6:05:00 AM (Local)  
**Wave Height:** 1.6 ft  
**Dominant Wave Period:** 6.0 sec  
**NOAA Station:** 44013

---

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target. The fluctuations in draft readings during the out-bound transit of load #275 are due to the draft sensor being incorrectly installed. Great Lakes personnel contacted SAIC on 10/15/08 and reported that while the scow was in dry dock being repaired, the draft sensor was removed and the stilling well was repositioned. After repairs were completed, the draft sensor was incorrectly re-installed. The sensor was not placed in the stilling well as is normal, but was simply placed in the ram well. Additionally, due to the sensor being incorrectly installed, it was damaged during load #277. It is SAIC's belief that the sensor was caught between the scow doors and damaged as the scow was closing. SAIC will travel to the dredging location on 10/15/08 to replace the sensor.
**2008 Boston Harbor Maintenance Dredging**
**W912WJ-07-C-0023**

**Draft / Speed for Trip: 277 Scow: GL65**

**Trip Information**
- **Trip #:** 277
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5500 cu yd
- **Start Time:** 10/15/2008 00:53:52
- **Init Aft Draft:** 20.32 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**
- **Placement Start:**
  - **Time:** 10/15/2008 04:27:00
  - **Latitude:** 42.430219
  - **Longitude:** -70.581656
  - **Aft Draft:** 18.62 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 10/15/2008 04:27:28
  - **Latitude:** 42.430319
  - **Longitude:** -70.580109
  - **Aft Draft:** 7.03 ft
  - **Forward Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Data Information:**
- **Type:** ADISSPlay Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target. The fluctuations in draft readings during the out-bound transit of load #275 are due to the draft sensor being incorrectly installed. Great Lakes personnel contacted SAIC on 10/15/08 and reported that while the scow was in dry dock being repaired, the draft sensor was removed and the stilling well was repositioned. After repairs were completed, the draft sensor was incorrectly re-installed. The sensor was not placed in the stilling well as is normal, but was simply placed in the ram well. Additionally, due to the sensor being incorrectly installed, it was damaged during load #277. It is SAICs belief that the sensor was caught between the scow doors and damaged as the scow was closing. SAIC will travel to the dredging location on 10/15/08 to replace the sensor.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 101508_131501
2008 Boston Harbor Maintenance Dredging  
W912WJ-07-C-0023

Trip Information:
- Trip #: 278
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5300 cu yd
- Start Time: 10/15/2008 10:58:44
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start: 10/15/2008 13:44:47
  - Lat: 42.430097
  - Long: -70.581811
  - Aft Draft: 18.53 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End: 10/15/2008 13:45:09
  - Lat: 42.430100
  - Long: -70.580581
  - Aft Draft: 12.50 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown  
Material Description: Unknown

Wave Information Recorded: 10/15/2008 10:58:44 AM (Local)
- Wave Height: 3.0 ft
- Dominant Wave Period: 4.0 sec
- NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  
Phone: (401)847-4210  
E-mail: info@adiss-afiss.com

Version: 101708_115035
**Draft / Speed for Trip: 278 Scow: GL63**

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<thead>
<tr>
<th>Time</th>
<th>Speed (knots)</th>
<th>Draft (ft)</th>
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</thead>
<tbody>
<tr>
<td>11AM</td>
<td>2.5</td>
<td>18.53</td>
</tr>
<tr>
<td>12PM</td>
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<tr>
<td>2PM</td>
<td>8.5</td>
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<td>3PM</td>
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<td>18.53</td>
</tr>
<tr>
<td>4PM</td>
<td>8.5</td>
<td>18.53</td>
</tr>
</tbody>
</table>

**Placement Information:**
- **Placement Start:**
  - Time: 10/15/2008 13:44:47
  - Latitude: 42.430097
  - Longitude: -70.581811
- **Placement End:**
  - Time: 10/15/2008 13:45:09
  - Latitude: 42.430100
  - Longitude: -70.580581

**Trip Information:**
- Trip #: 278
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5300 cu yd
- Start Time: 10/15/2008 10:58:44
- Init Aft Draft: 18.53 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

**Material Source:** Unknown
**Material Description:** Unknown

**Data Information:**
- Type: ADISSPlay Data.
- Notes:
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

---

11/18/2008
Trip Information:

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<thead>
<tr>
<th>Trip #:</th>
<th>279</th>
</tr>
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<tbody>
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Placement Information:

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<th>Fore Draft</th>
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<tbody>
<tr>
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<tr>
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<tr>
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Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 10/15/2008 11:41:32 PM (Local)
Wave Height: 2.6 ft Dominant Wave Period: 9.0 sec NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 101708_151937
Draft / Speed for Trip: 279 Scow: GL65

Trip Information:
- Trip #: 279
- Tug Name: Lemmerhit
- Captain(s): Unknown
- Scow Name: GL65
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5700 cu yd
- Start Time: 10/15/2008 23:41:32
- Init Aft Draft: 20.82 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Place Information:
- Placement Start Time: 10/16/2008 02:43:56
- Latitude: 42.427337
- Longitude: -70.580498
- Aft Draft: 19.84 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A
- Placement End Time: 10/16/2008 02:44:08
- Latitude: 42.427512
- Longitude: -70.579855
- Aft Draft: 12.44 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 101708_151937
### Trip Information:
- **Trip #:** 280
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5700 cu yd
- **Start Time:** 10/16/2008 08:46:11
- **Init Aft Draft:** 18.45 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:**
  - **Time:** 10/16/2008 12:49:02
  - **Lat:** 42.427278
  - **Long:** -70.573809
- **Aft Draft:** 18.53 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 10/16/2008 12:49:18
  - **Lat:** 42.427580
  - **Long:** -70.573626
- **Aft Draft:** 12.26 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

### Material Information:
- **Material Source:** Unknown
- **Material Description:** Unknown

### Wave Information:
- **Wave Height:** 2.6 ft
- **Dominant Wave Period:** 8.0 sec
- **NOAA Station:** 44013

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target on the second attempt.

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com

**Version:** 101708_120727
Trip Information:

Trip #: 280
Tug Name: Lemmerhirt
Captain(s): Unknown
Scow Name: GL63
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5700 cu yd
Start Time: 10/16/2008 08:46:11
Init Aft Draft: 18.45 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Placement Information:

Placement Start:
Time: 10/16/2008 12:49:02
Latitude: 42.427278
Longitude: -70.573809
Aft Draft: 18.53 ft
Aft Bin: N/A
Fore Draft: N/A
Fore Bin: N/A

Placement End:
Time: 10/16/2008 12:49:18
Latitude: 42.427580
Longitude: -70.573626
Aft Draft: 12.26 ft
Aft Bin: N/A
Forward Draft: N/A
Fore Bin: N/A

Data Information:

Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target on the second attempt.

SAIC Point of Contact: Marc Wakeman
Phone: (401) 847-4210
E-mail: info@adiss-afiss.com
Version: 101708_120727

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

### Trip Information:
- **Trip #:** 281
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 10/16/2008 15:55:42
- **Init Aft Draft:** 21.20 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Placement Start:**
  - **Time:** 10/16/2008 19:04:50
  - **Lat:** 42.430282
  - **Long:** -70.577200
  - **Aft Draft:** 20.22 ft
  - **Aft Bin:** N/A
  - **Fore Draft:** N/A
  - **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 10/16/2008 19:05:00
  - **Lat:** 42.430331
  - **Long:** -70.576677
  - **Aft Draft:** 12.07 ft
  - **Aft Bin:** N/A
  - **Fore Draft:** N/A
  - **Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:**
- **Date:** 10/16/2008 3:55:42 PM (Local)
- **Wave Height:** 2.6 ft  
- **Dominant Wave Period:** 9.0 sec  
- **NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 101708_152348

---

Trip Information:
- **Trip #:** 281
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 10/16/2008 15:55
- **Init Aft Draft:** 21.20 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A
- **Material Source:** Unknown
- **Material Description:** Unknown

Placement Information:
- **Placement Start:**
  - **Time:** 10/16/2008 19:04
  - **Latitude:** 42.430282
  - **Longitude:** -70.577200
- **Placement End:**
  - **Time:** 10/16/2008 19:05
  - **Latitude:** 42.430331
  - **Longitude:** -70.576677
- **Aft Draft:** 12.07 ft
- **Forward Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Data Information:**
- **Type:** ADISS Play Data.
- **Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

Version: 101708_152348
## Trip Information:

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<tr>
<td>Tug:</td>
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<tr>
<td>Captain(s):</td>
<td>Unknown</td>
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<tr>
<td>Scow:</td>
<td>GL63</td>
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<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
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<td>Technique:</td>
<td>Bottom Dump</td>
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<tr>
<td>Bin Volume:</td>
<td>5800 cu yd</td>
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<tr>
<td>Start Time:</td>
<td>10/17/2008 00:54:20</td>
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</table>

Init Aft Draft: 18.45 ft  
Init Fore Draft: N/A  
Init Aft Bin: N/A  
Init Fore Bin: N/A

## Placement Information:

| Placement Start: | 10/17/2008 04:04:12 |
| Init Aft Draft:  | 18.45 ft |
| Init Fore Draft: | N/A |
| Init Aft Bin:    | N/A |
| Init Fore Bin:   | N/A |

Aft Draft: 12.42 ft  
Fore Draft: N/A  
Aft Bin: N/A  
Fore Bin: N/A

## Placement End:

| Placement End: | 10/17/2008 04:04:28 |
| Aft Draft:    | 18.45 ft |
| Fore Draft:   | N/A |
| Aft Bin:      | N/A |
| Fore Bin:     | N/A |

Material Source: Unknown  
Material Description: Unknown

Wave Information Recorded: 10/17/2008 12:54:20 AM (Local)

Wave Height: 3.0 ft  
Dominant Wave Period: 9.0 sec  
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  
Phone: (401)847-4210  
E-mail: info@adiss-afiss.com

Version: 101708_121555

11/18/2008
Draft / Speed for Trip: 282 Scow: GL63

Trip Information:
- Trip #: 282
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5800 cu yd
- Start Time: 10/17/2008 00:54:20
- Initial Aft Draft: 18.45 ft
- Init Aft Draft: 18.45 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A
- Material Source: Unknown
- Material Description: Unknown

Placement Information:
- Placement Start:
  - Time: 10/17/2008 04:04:12
  - Latitude: 42.427885
  - Longitude: -70.579514
- Placement End:
  - Time: 10/17/2008 04:04:28
  - Latitude: 42.427993
  - Longitude: -70.578743
- Aft Draft: 18.45 ft
- Forward Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Data Information:
- Type: ADISSPlay Data.
- Notes:
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com  Version: 101708_121555
**Trip Information:**

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<td>Captain(s)</td>
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<tr>
<td>Scow</td>
<td>GL65</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
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</tr>
<tr>
<td>Bin Volume</td>
<td>5700 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>10/17/2008 08:22:08</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>21.57 ft</td>
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<td>Init Fore Draft</td>
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<td>Init Aft Bin</td>
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<tr>
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**Placement Information:**

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<tr>
<td>Long: -70.577150</td>
<td>Long: -70.576573</td>
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<td>Aft Draft: 20.74 ft</td>
<td>Aft Draft: 11.99 ft</td>
</tr>
<tr>
<td>Fore Draft: N/A</td>
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<tr>
<td>Aft Bin: N/A</td>
<td>Aft Bin: N/A</td>
</tr>
<tr>
<td>Fore Bin: N/A</td>
<td>Fore Bin: N/A</td>
</tr>
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Material Source: Unknown  
Material Description: Unknown

Wave Information Recorded: 10/17/2008 8:22:08 AM (Local)  
Wave Height: 3.0 ft  
Dominant Wave Period: 4.0 sec  
NOAA Station: 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  
Phone: (401)847-4210  
E-mail: info@adiss-afiss.com

Version: 101708_152734

11/18/2008
Trip Information:

- **Trip #:** 283
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5700 cu yd
- **Start Time:** 10/17/2008 08:22:08
- **Init Aft Draft:** 21.57 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

Placement Information:

- **Placement Start:**
  - **Time:** 10/17/2008 11:23:42
  - **Latitude:** 42.428099
  - **Longitude:** -70.577150
  - **Aft Draft:** 20.74 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 10/17/2008 11:23:54
  - **Latitude:** 42.428116
  - **Longitude:** -70.576573
  - **Aft Draft:** 11.99 ft
  - **Forward Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

Material Source: Unknown
Material Description: Unknown

Data Information:

- **Type:** ADISSLPlay Data.
- **Notes:**
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com

Version: 101708_152734
Trip Information:

Trip #: 284
Tug: Lemmerhirt
Captain(s): Unknown
Scow: GL63
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5700 cu yd
Start Time: 10/17/2008 17:14:48
Init Aft Draft: 18.53 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Placement Information:

Placement Start:
Time: 10/17/2008 19:57:16
Lat: 42.429170
Long: -70.580579
Aft Draft: 18.45 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Time: 10/17/2008 19:57:34
Lat: 42.429167
Long: -70.579632
Aft Draft: 12.97 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Wave Information Recorded: 10/17/2008 5:14:48 PM (Local)
Wave Height: 3.0 ft Dominant Wave Period: 5.0 sec NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 102008_110505
Draft / Speed for Trip: 284 Scow: GL63

Initial Draft: 18.53 ft
Initial Disposal Speed: 8.1

Placement Information:
- Placement Start:
  - Time: 10/17/2008 19:57:16
  - Latitude: 42.429170
  - Longitude: -70.580579
- Placement End:
  - Time: 10/17/2008 19:57:34
  - Latitude: 42.429167
  - Longitude: -70.579632

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 102008_110505

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

## Trip Information:

**Trip #:** 285  
**Tug:** Lemmerhirt  
**Captain(s):** Unknown  
**Scow:** GL65  
**Type:** Split Hull Scow  
**Technique:** Bottom Dump  
**Bin Volume:** 6000 cu yd  
**Start Time:** 10/18/2008 03:28:29

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<tr>
<td>22.48 ft</td>
<td>21.35 ft</td>
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<th>Fore Bin</th>
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<tr>
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**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 10/18/2008 3:28:29 AM (Local)

**Wave Height:** 5.6 ft  
**Dominant Wave Period:** 6.0 sec  
**NOAA Station:** 44013

## Placement Information:

**Placement Start:** 10/18/2008 06:26:07  
**Lat:** 42.426226  
**Long:** -70.579871

**Placement End:** 10/18/2008 06:26:13  
**Lat:** 42.426272  
**Long:** -70.579577

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
### Trip Information:

- **Trip #:** 285
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 6000 cu yd
- **Start Time:** 10/18/2008 03:28:29
- **Init Aft Draft:** 22.48 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

### Placement Information:

- **Placement Start:**
  - **Time:** 10/18/2008 06:26:07
  - **Latitude:** 42.426226
  - **Longitude:** -70.579871
  - **Aft Draft:** 21.35 ft
  - **Aft Bin:** N/A
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A

- **Placement End:**
  - **Time:** 10/18/2008 06:26:13
  - **Latitude:** 42.426272
  - **Longitude:** -70.579577
  - **Aft Draft:** 11.92 ft
  - **Aft Bin:** N/A
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A

**Data Information:**

- **Type:** ADISS Play Data.
- **Notes:**
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 102008_110523
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 286
- Tug: Lemmerhirt
- Captain(s): Unknown
- Scow: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5500 cu yd
- Start Time: 10/18/2008 11:25:34
- Init Aft Draft: 18.45 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start
  - Time: 10/18/2008 15:11:24
  - Lat: 42.426949
  - Long: -70.581735
  - Aft Draft: 18.61 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End
  - Time: 10/18/2008 15:11:40
  - Lat: 42.427035
  - Long: -70.581071
  - Aft Draft: 12.66 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown
Wave Information Recorded: 10/18/2008 11:25:34 AM (Local)
Wave Height: 5.6 ft Dominant Wave Period: 6.0 sec NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 102008_110546
Trip Information:
- Trip #: 286
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5500 cu yd
- Start Time: 10/18/2008 11:25:34
- Init Aft Draft: 18.45 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 10/18/2008 15:11:24
  - Latitude: 42.426949
  - Longitude: -70.581735
  - Aft Draft: 18.61 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 10/18/2008 15:11:40
  - Latitude: 42.427035
  - Longitude: -70.581071
  - Aft Draft: 12.66 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 102008_110546

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=105586,105590,105650,...
### Trip Information:

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<td>Lemmerhirt</td>
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<td>Unknown</td>
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<td>Scow:</td>
<td>GL65</td>
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<tr>
<td>Type:</td>
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<td>Technique:</td>
<td>Bottom Dump</td>
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### Placement Information:

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<tr>
<td>Lat:</td>
<td>Lat:</td>
</tr>
<tr>
<td>42.427599</td>
<td>42.427658</td>
</tr>
<tr>
<td>Long:</td>
<td>Long:</td>
</tr>
<tr>
<td>-70.579705</td>
<td>-70.579138</td>
</tr>
</tbody>
</table>

- Init Aft Draft: 21.42 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A
- Aft Draft: 20.52 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 10/18/2008 10:08:23 PM (Local)  
**Wave Height:** 4.3 ft  
**Dominant Wave Period:** 6.0 sec  
**NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 102008_164136

---

[Image]

**Legend:**
- **Transit**
- **Placement**
- **Return Transit**

**Hull Status:**
- **Closed / Unknown**
- **Open**
Draft / Speed for Trip: 287 Scow: GL65

Placement Information:
- Placement Start:
  - Time: 10/19/2008 01:08:01
  - Latitude: 42.42759
  - Longitude: -70.579705
- Placement End:
  - Time: 10/19/2008 01:08:13
  - Latitude: 42.427658
  - Longitude: -70.579138

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 102008_164136
### Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>288</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>6000 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>10/21/2008 07:18:57</td>
</tr>
</tbody>
</table>

#### Placement Information:

- **Placement Start:**
  - Time: 10/21/2008 10:26:43
  - Lat: 42.430268
  - Long: -70.582474
  - Aft Draft: 18.45 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- **Placement End:**
  - Time: 10/21/2008 10:27:04
  - Lat: 42.430357
  - Long: -70.581666
  - Aft Draft: 12.02 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

### Material Information:

- **Source:** Unknown
- **Description:** Unknown

### Wave Information:

- **Recorded:** 10/21/2008 7:18:57 AM (Local)
- **Height:** 5.6 ft
- **Dominant Period:** 13.0 sec
- **NOAA Station:** 44013

### Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman
**Phone:** (401)847-4210
**E-mail:** info@adiss-afiss.com

**Version:** 102208_140151
Trip Information:

- **Trip #:** 288
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 6000 cu yd
- **Start Time:** 10/21/2008 07:18:57
- **Init Aft Draft:** 18.45 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

Placement Information:

- **Placement Start:**
  - **Time:** 10/21/2008 10:26:43
  - **Latitude:** 42.430268
  - **Longitude:** -70.582474
- **Aft Draft:** 18.45 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 10/21/2008 10:27:04
  - **Latitude:** 42.430357
  - **Longitude:** -70.581666
- **Aft Draft:** 12.02 ft
- **Forward Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

Data Information:

- **Type:** ADISSPlay Data.
- **Notes:**
  
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  
Phone: (401)847-4210  E-mail: info@adiss-afiss.com

Version: 102208_140151
### Trip Information:
- **Trip #:** 289
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 6276 cu yd
- **Start Time:** 10/31/2008 21:51:57

### Placement Information:
- **Placement Start:**
  - **Time:** 11/1/2008 00:36:11
  - **Lat:** 42.429359
  - **Long:** -70.581928
  - **Aft Draft:** 20.82 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A
- **Placement End:**
  - **Time:** 11/1/2008 00:36:23
  - **Lat:** 42.429446
  - **Long:** -70.581349
  - **Aft Draft:** 10.63 ft
  - **Fore Draft:** N/A
  - **Aft Bin:** N/A
  - **Fore Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 10/31/2008 9:51:57 PM (Local)  
- **Wave Height:** 2.3 ft  
- **Dominant Wave Period:** 3.0 sec  
- **NOAA Station:** 44013

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 110308_171656
Draft / Speed for Trip: 289 Scow: GL65

**Trip Information:**
- **Trip #:** 289
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 6276 cu yd
- **Start Time:** 10/31/2008 21:51:57
- **Init Aft Draft:** 21.65 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Material Source:** Unknown  **Material Description:** Unknown

**Placement Information:**
- **Placement Start:**
  - **Time:** 11/1/2008 00:36:11
  - **Latitude:** 42.429359
  - **Longitude:** -70.581928
- **Aft Draft:** 20.82 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 11/1/2008 00:36:23
  - **Latitude:** 42.429446
  - **Longitude:** -70.581349
- **Aft Draft:** 10.63 ft
- **Forward Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Data Information:**
- **Type:** ADISSPlay Data.
- **Notes:**
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com

**Version:** 110308_171656

---

### Trip Information:
- **Trip #:** 290
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 6276 cu yd
- **Start Time:** 11/1/2008 20:02:53

### Placement Information:
- **Placement Start:**
  - **Time:** 11/1/2008 22:16:17
  - **Lat:** 42.429701
  - **Long:** -70.582212
- **Placement End:**
  - **Time:** 11/1/2008 22:16:35
  - **Lat:** 42.430035
  - **Long:** -70.582854

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 11/1/2008 8:02:53 PM (Local)  
**Wave Height:** 2.0 ft  
**Dominant Wave Period:** 5.0 sec  
**NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 110308_093501
### Trip Information

- **Trip #:** 290
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 6276 cu yd
- **Start Time:** 11/1/2008 20:02:53

- **Init Aft Draft:** 18.45 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information

- **Placement Start:**
  - **Time:** 11/1/2008 22:16:17
  - **Latitude:** 42.429701
  - **Longitude:** -70.582212

- **Placement End:**
  - **Time:** 11/1/2008 22:16:35
  - **Latitude:** 42.430035
  - **Longitude:** -70.582854

- **Aft Draft:** 18.45 ft
- **Aft Bin:** N/A
- **Aft Bin:** N/A
- **Init Aft Draft:** 18.45 ft
- **Init Aft Bin:** N/A

- **Fore Draft:** N/A
- **Fore Bin:** N/A

### Material Information

- **Material Source:** Unknown
- **Material Description:** Unknown

### Data Information

- **Type:** ADISSPlay Data.
- **Notes:**

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**2008 Boston Harbor Maintenance Dredging**

**SAIC Point of Contact:** Marc Wakeman  **Phone:** (401)847-4210  **E-mail:** info@adiss-afiss.com

Version: 110308_093501
**Trip Information:**

<table>
<thead>
<tr>
<th>Trip #</th>
<th>291</th>
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<tbody>
<tr>
<td>Tug</td>
<td>Lemmerhirt</td>
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<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL65</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5900 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>11/2/2008 09:12:34</td>
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</tbody>
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<table>
<thead>
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</thead>
<tbody>
<tr>
<td>Time</td>
<td>Time</td>
</tr>
<tr>
<td>11/2/2008</td>
<td>11/2/2008</td>
</tr>
<tr>
<td>12:06:58</td>
<td>12:07:12</td>
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<table>
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<tr>
<th>Init Aft Draft</th>
<th>Aft Draft</th>
<th>Aft Draft</th>
</tr>
</thead>
<tbody>
<tr>
<td>21.27 ft</td>
<td>20.22 ft</td>
<td>12.44 ft</td>
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<table>
<thead>
<tr>
<th>Init Fore Draft</th>
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</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
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<table>
<thead>
<tr>
<th>Init Aft Bin</th>
<th>Aft Bin</th>
<th>Aft Bin</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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</tbody>
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<table>
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<tr>
<th>Init Fore Bin</th>
<th>Fore Bin</th>
<th>Fore Bin</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
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</tr>
</tbody>
</table>

**Placement Information:**

<table>
<thead>
<tr>
<th>Material Source</th>
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</thead>
<tbody>
<tr>
<td>Material Description</td>
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</tr>
</tbody>
</table>

**Wave Information Recorded:**

- Wave Height: 3.9 ft
- Dominant Wave Period: 5.0 sec
- NOAA Station: 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 110308_172223
Draft / Speed for Trip: 291 Scow: GL65

Initial Draft: 21.27 ft

Placement Information:
- Placement Start:
  - Time: 11/2/2008 12:06:58
  - Latitude: 42.429569
  - Longitude: -70.581972
- Placement End:
  - Time: 11/2/2008 12:07:12
  - Latitude: 42.429674
  - Longitude: -70.581352

Material Source: Unknown
Material Description: Unknown

Data Information:
- Type: ADISSPlay Data.
- Notes:
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman  Phone: (401)847-4210  E-mail: info@adiss-afiss.com
Version: 110308_172223
### Trip Information:

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Trip #</td>
<td>292</td>
</tr>
<tr>
<td>Tug</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow</td>
<td>GL63</td>
</tr>
<tr>
<td>Type</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume</td>
<td>5579 cu yd</td>
</tr>
<tr>
<td>Start Time</td>
<td>11/2/2008 21:57:35</td>
</tr>
<tr>
<td>Init Aft Draft</td>
<td>18.37 ft</td>
</tr>
<tr>
<td>Init Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Init Fore Bin</td>
<td>N/A</td>
</tr>
</tbody>
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### Placement Information:

<table>
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<th>Field</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Placement Start Time</td>
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</tr>
<tr>
<td>Placement End Time</td>
<td>11/3/2008 00:47:42</td>
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<tr>
<td>Lat: Aft</td>
<td>42.429941</td>
</tr>
<tr>
<td>Lon: Aft</td>
<td>-70.581829</td>
</tr>
<tr>
<td>Lat: Fore</td>
<td>N/A</td>
</tr>
<tr>
<td>Lon: Fore</td>
<td>N/A</td>
</tr>
<tr>
<td>Aft Draft</td>
<td>18.45 ft</td>
</tr>
<tr>
<td>Fore Draft</td>
<td>N/A</td>
</tr>
<tr>
<td>Aft Bin</td>
<td>N/A</td>
</tr>
<tr>
<td>Fore Bin</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Material Information:

- **Source:** Unknown
- **Description:** Unknown

### Wave Information:

- **Recorded:** 11/2/2008 9:57:35 PM (Local)
- **Height:** 2.0 ft
- **Dominant Period:** 5.0 sec
- **NOAA Station:** 44013

### Notes:

SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 110308_103252

---

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=105586,105590,105650,...  
11/18/2008
Trip Information:

- **Trip #:** 292
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5579 cu yd
- **Start Time:** 11/2/2008 21:57:35
- **Init Aft Draft:** 18.37 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

Placement Information:

- **Placement Start:**
  - Time: 11/3/2008 00:47:24
  - Latitude: 42.429941
  - Longitude: -70.581829
  - Aft Draft: 18.45 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- **Placement End:**
  - Time: 11/3/2008 00:47:42
  - Latitude: 42.429999
  - Longitude: -70.581202
  - Aft Draft: 12.74 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

**Material Source:** Unknown  **Material Description:** Unknown

**Data Information:**

- **Type:** ADISSPlay Data.
- **Notes:**
  SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:**

Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

Version: 110308_103252

**2008 Boston Harbor Maintenance Dredging**

W912WJ-07-C-0023

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=105586,105590,105650,...
**Trip Information:**
- **Trip #:** 293
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 6256 cu yd
- **Start Time:** 11/3/2008 07:12:16

**Placement Information:**
- **Time:**
  - **Start:** 11/3/2008 09:55:56
  - **End:** 11/3/2008 09:56:07
- **Lat:**
  - **Start:** 42.429439
  - **End:** 42.429500
- **Long:**
  - **Start:** -70.582257
  - **End:** -70.581729
- **Aft Draft:**
  - **Start:** 22.71 ft
  - **End:** 11.61 ft
- **Fore Draft:**
  - **Start:** N/A
  - **End:** N/A
- **Aft Bin:**
  - **Start:** N/A
  - **End:** N/A
- **Fore Bin:**
  - **Start:** N/A
  - **End:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown  
**Wave Information Recorded:** 11/3/2008 7:12:16 AM (Local)  
**Wave Height:** 1.6 ft  
**Dominant Wave Period:** 3.0 sec  
**NOAA Station:** 44013

---

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 110308_172852
### Trip Information

- **Trip #:** 293
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 6256 cu yd
- **Start Time:** 11/3/2008 07:12:16
- **Init Aft Draft:** 22.71 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information

- **Placement Start:**
  - **Time:** 11/3/2008 09:55:56
  - **Latitude:** 42.429439
  - **Longitude:** -70.582257
- **Aft Draft:** 21.80 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 11/3/2008 09:56:07
  - **Latitude:** 42.429500
  - **Longitude:** -70.581729
- **Aft Draft:** 11.61 ft
- **Forward Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

### Material Source:
- Unknown

### Material Description:
- Unknown

### Data Information:

- **Type:** ADISSPlay Data
- **Notes:**
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com  
**Version:** 110308_172852

---

**2008 Boston Harbor Maintenance Dredging**  
**W912WJ-07-C-0023**
**Trip Information:**
- **Trip #:** 294
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5872 cu yd
- **Start Time:** 11/3/2008 16:46:14
- **Init Aft Draft:** 18.45 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**
- **Placement Start:**
  - Lat: 42.429927
  - Long: -70.581659
- **Placement End:**
  - Lat: 42.430043
  - Long: -70.580939
- **Aft Draft:** 18.37 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown
**Material Description:** Unknown

**Wave Information Recorded:**
11/3/2008 4:46:14 PM (Local)
- **Wave Height:** 1.6 ft
- **Dominant Wave Period:** 4.0 sec
- **NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 110408_092621

**2008 Boston Harbor Maintenance Dredging**

**W912WJ-07-C-0023**

---

**Draft / Speed for Trip: 294 Scow: GL63**

- **Aft Draft**: 18.45 ft
- **Initial Draft**: 18.45 ft
- **Initial Disposal Speed**: 6.6 knots
- **Placement Information**:
  - **Latitude**: 42.429927
  - **Longitude**: -70.581659
  - **Aft Draft**: 18.37 ft
  - **Fore Draft**: N/A
  - **Aft Bin**: N/A
  - **Fore Bin**: N/A
  - **Placement End Time**: 11/3/2008 19:26:06
  - **Latitude**: 42.430043
  - **Longitude**: -70.580939
  - **Aft Draft**: 12.42 ft
  - **Fore Draft**: N/A
  - **Aft Bin**: N/A
  - **Fore Bin**: N/A

---

**Trip Information**

- **Trip #:**: 294
- **Tug Name**: Lemmerhirt
- **Captain(s)**: Unknown
- **Scow Name**: GL63
- **Type**: Split Hull Scow
- **Technique**: Bottom Dump
- **Bin Volume**: 5872 cu yd
- **Start Time**: 11/3/2008 16:46:14
- **Init Aft Draft**: 18.45 ft
- **Init Fore Draft**: N/A
- **Init Aft Bin**: N/A
- **Init Fore Bin**: N/A

**Placement Information**

- **Latitude**: 42.429927
- **Longitude**: -70.581659
- **Aft Draft**: 18.37 ft
- **Fore Draft**: N/A
- **Aft Bin**: N/A
- **Fore Bin**: N/A
- **Placement End Time**: 11/3/2008 19:26:06
- **Latitude**: 42.430043
- **Longitude**: -70.580939
- **Aft Draft**: 12.42 ft
- **Fore Draft**: N/A
- **Aft Bin**: N/A
- **Fore Bin**: N/A

**Material Source**: Unknown

**Material Description**: Unknown

**Data Information**

- **Type**: ADISSPlay Data.
- **Notes**: SAIC designated placement locations illustrate a successful placement of material in disposal site target.

---

**SAIC Point of Contact**: Marc Wakeman  
**Phone**: (401)847-4210  
**E-mail**: info@adiss-afiss.com

**Version**: 110408_092621

---

**2008 Boston Harbor Maintenance Dredging**

**W912WJ-07-C-0023**

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http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=105586,105590,105650,...  
11/18/2008
### Trip Information:

<table>
<thead>
<tr>
<th>Trip #</th>
<th>295</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tug:</td>
<td>Lemmerhirt</td>
</tr>
<tr>
<td>Captain(s):</td>
<td>Unknown</td>
</tr>
<tr>
<td>Scow:</td>
<td>GL65</td>
</tr>
<tr>
<td>Type:</td>
<td>Split Hull Scow</td>
</tr>
<tr>
<td>Technique:</td>
<td>Bottom Dump</td>
</tr>
<tr>
<td>Bin Volume:</td>
<td>6074 cu yd</td>
</tr>
</tbody>
</table>

| Init Aft Draft: | 21.35 ft |
| Init Fore Draft: | N/A |
| Init Aft Bin: | N/A |
| Init Fore Bin: | N/A |

### Placement Information:


| Aft Draft: | 20.52 ft |
| Fore Draft: | N/A |
| Aft Bin: | N/A |
| Fore Bin: | N/A |

### Material Source:
Unknown

### Material Description:
Unknown

### Wave Information Recorded:
11/4/2008 5:25:59 AM (Local)

### Wave Height:
1.0 ft

### Dominant Wave Period:
10.0 sec

### NOAA Station:
44013

---

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target. The hull status sensor indicates that the GL65 returned to the dredge site while Open. The hull status sensor returned to the Closed position after returning to the mooring buoy.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 110408_112919

---

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=105586,105590,105650,...  
11/18/2008
Draft / Speed for Trip: 295 Scow: GL65

Initial Draft 21.35

Initial Disposal Speed 8.1

Placement
Time

Legend: 
Transit Placement Return Transit

4 Tue Nov 2008

Placement Information:
- Latitude: 42.429406
- Longitude: -70.583259
- Aft Draft: 20.52 ft
- Fore Draft: N/A
- Aft Bin: N/A
- Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target. The hull status sensor indicates that the GL65 returned to the dredge site while Open. The hull status sensor returned to the Closed position after returning to the mooring buoy.

SAIC Point of Contact: Marc Wakeman Phone: (401)847-4210 E-mail: info@adiss-afiss.com
Version: 110408_112919

2008 Boston Harbor Maintenance Dredging

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=105586,105590,105650,...
### Trip Information:
- **Trip #:** 296
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 6276 cu yd
- **Start Time:** 11/4/2008 16:51:00
- **Init Aft Draft:** 18.45 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:
- **Start Time:** 11/4/2008 19:29:50
  - **Lat:** 42.429651
  - **Long:** -70.582028
- **End Time:** 11/4/2008 19:30:11
  - **Lat:** 42.429816
  - **Long:** -70.581136

### Material Source:
- **Material Description:** Unknown

### Wave Information Recorded:
- **Wave Height:** 1.0 ft
- **Dominant Wave Period:** 10.0 sec
- **NOAA Station:** 44013

### Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

Version: 110608_153103

---

**http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=105586,105590,105650...**
**Trip Information**

- **Trip #:** 296
- **Tug Name:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow Name:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 6276 cu yd
- **Start Time:** 11/4/2008 16:51:00
- **Init Aft Draft:** 18.45 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**

- **Placement Start:**
  - Latitude: 42.429651
  - Longitude: -70.582028
  - Aft Draft: 18.45 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- **Placement End:**
  - Latitude: 42.429816
  - Longitude: -70.581136
  - Aft Draft: 15.04 ft
  - Forward Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Data Information:**

- **Type:** ADISSPlay Data.
- **Notes:**
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**2008 Boston Harbor Maintenance Dredging**  
**W912WJ-07-C-0023**
**Trip Information:**

- **Trip #:** 297
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5800 cu yd
- **Start Time:** 11/5/2008 04:36:45
- **Init Aft Draft:** 21.50 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

**Placement Information:**

- **Placement Start:**
  - **Time:** 11/5/2008 07:15:21
  - **Lat:** 42.429300
  - **Long:** -70.581747
- **Aft Draft:** 20.59 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

- **Placement End:**
  - **Time:** 11/5/2008 07:15:35
  - **Lat:** 42.429397
  - **Long:** -70.581055
- **Aft Draft:** 11.61 ft
- **Fore Draft:** N/A
- **Aft Bin:** N/A
- **Fore Bin:** N/A

**Material Source:** Unknown

**Material Description:** Unknown

**Wave Information Recorded:** 11/5/2008 4:36:45 AM (Local)

- **Wave Height:** 1.0 ft
- **Dominant Wave Period:** 9.0 sec

**NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.
Draft / Speed for Trip: 297 Scow: GL65

Init Draft: 21.50 ft
Init Disposal Speed 7.9

5 Wed Nov 2008

Placement Information:
Placement Start:
Time: 11/5/2008 07:15:21
Latitude: 42.429300
Longitude: -70.581747
Aft Draft: 20.59 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Time: 11/5/2008 07:15:35
Latitude: 42.429397
Longitude: -70.581055
Aft Draft: 11.61 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Trip Information:
Trip #: 297
Tug Name: Lemmerhirt
Captain(s): Unknown
Scow Name: GL65
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5800 cu yd
Start Time: 11/5/2008 04:36:45
Init Aft Draft: 21.50 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman Phone: (401)847-4210 E-mail: info@adiss-afiss.com
Version: 110508_130505

2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_puids=105586,105590,105650,...
**Trip Information:**
- **Trip #:** 298
- **Tug:** Lemmerhirt
- **Captain(s):** Unknown
- **Scow:** GL63
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 5872 cu yd
- **Start Time:** 11/5/2008 17:21:01

**Init Aft Draft:** 18.45 ft  
**Init Fore Draft:** N/A  
**Init Aft Bin:** N/A  
**Init Fore Bin:** N/A

**Placement Information:**
- **Placement Start:** 11/5/2008 20:04:47
- **Lat:** 42.429480
- **Long:** -70.582626
- **Aft Draft:** 18.45 ft  
**Aft Bin:** N/A  
**Fore Draft:** N/A  
**Fore Bin:** N/A

- **Placement End:** 11/5/2008 20:05:05
- **Lat:** 42.429625
- **Long:** -70.581830
- **Aft Draft:** 12.97 ft
- **Aft Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 11/5/2008 5:21:01 PM (Local)
- **Wave Height:** 1.0 ft
- **Dominant Wave Period:** 9.0 sec
- **NOAA Station:** 44013

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 110608_153214
Draft / Speed for Trip: 298 Scow: GL63

Initial Draft: 18.45 ft
Initial Disposal Speed: 7.5 knots

Placement

Time

5 Wed Nov 2008

Legend:

- Transit
- Placement
- Return Transit

Trip Information:

- Trip #: 298
- Tug Name: Lemmerhirt
- Captain(s): Unknown
- Scow Name: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 5872 cu yd
- Start Time: 11/5/2008 17:21:01
- Init Aft Draft: 18.45 ft
- Init Fore Draft: N/A
- Init Aft Bin: N/A
- Init Fore Bin: N/A

Placement Information:

- Placement Start:
  - Time: 11/5/2008 20:04:47
  - Latitude: 42.429480
  - Longitude: -70.582626
  - Aft Draft: 18.45 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

- Placement End:
  - Time: 11/5/2008 20:05:05
  - Latitude: 42.429625
  - Longitude: -70.581830
  - Aft Draft: 12.97 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:

- Type: ADISSPlay Data.
- Notes:
  - SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 110608_153214
Trip Information:
Trip #: 299
Tug: Lemmerhirt
Captain(s): Unknown
Scow: GL65
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 5900 cu yd
Init Aft Draft: 13.80 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Placement Information:
Placement Start:
Time: 11/6/2008 01:47:48
Lat: 42.429596
Long: -70.581285
Aft Draft: 13.35 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A
Placement End:
Time: 11/6/2008 01:48:06
Lat: 42.429700
Long: -70.580382
Aft Draft: 13.05 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown
Wave Information Recorded: 11/5/2008 11:15:32 PM (Local)
Wave Height: 2.0 ft
Dominant Wave Period: 3.0 sec
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target. No significant change in draft is visible during load #299 with the GL65, possibly due to a malfunctioning draft sensor. The disposal phase is based on scow position as well as data from the hull status sensor. SAIC traveled to the project site on 11/6/08 to replace the draft sensor installed on the GL65. The hull status sensor remained in the Open position during the return transit of load #299. The sensor returned to the Closed position after returning to the dredge site.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com
Version: 110608_155957
Draft / Speed for Trip: 299 Scow: GL65

Initial Draft 13.80
Initial Disposal Speed 8.1

Material Source: Unknown
Material Description: Unknown

Placement Information:
Placement Start:
Time: 11/6/2008
01:47:48
Latitude: 42.429596
Longitude: -70.581285
Aft Draft: 13.35 ft
Aft Bin: N/A
Fore Draft: N/A
Fore Bin: N/A

Placement End:
Time: 11/6/2008
01:48:06
Latitude: 42.429700
Longitude: -70.580382
Aft Draft: 13.05 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Data Information:
Type: ADISS Play Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target. No significant change in draft is visible during load #299 with the GL65, possibly due to a malfunctioning draft sensor. The disposal phase is based on scow position as well as data from the hull status sensor. SAIC traveled to the project site on 11/6/08 to replace the draft sensor installed on the GL65. The hull status sensor remained in the Open position during the return transit of load #299. The sensor returned to the Closed position after returning to the dredge site.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com

Version: 110608_155957

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=105586,105590,105650,...
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Trip Information:
- Trip #: 300
- Tug: Harold A. Reinaeur II
- Captain(s): Unknown
- Scow: GL63
- Type: Split Hull Scow
- Technique: Bottom Dump
- Bin Volume: 6050 cu yd
- Start Time: 11/10/2008 00:06:54
  - Init Aft Draft: 18.45 ft
  - Init Fore Draft: N/A
  - Init Aft Bin: N/A
  - Init Fore Bin: N/A

Placement Information:
- Placement Start:
  - Time: 11/10/2008 03:42:32
  - Lat: 42.423968
  - Long: -70.587766
  - Aft Draft: 18.45 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A
- Placement End:
  - Time: 11/10/2008 03:42:56
  - Lat: 42.424093
  - Long: -70.587226
  - Aft Draft: 12.18 ft
  - Fore Draft: N/A
  - Aft Bin: N/A
  - Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown
Wave Information Recorded: 11/10/2008 12:06:54 AM (Local)
Wave Height: 1.6 ft
Dominant Wave Period: 9.0 sec
NOAA Station: 44013

Notes: SAIC designated placement locations illustrate a successful placement of material in disposal site target.
### Trip Information:

- **Trip #:** 301
- **Tug:** Harold A. Reinaeur II
- **Captain(s):** Unknown
- **Scow:** GL65
- **Type:** Split Hull Scow
- **Technique:** Bottom Dump
- **Bin Volume:** 3800 cu yd
- **Start Time:** 11/10/2008 07:17:15
- **Init Aft Draft:** 15.44 ft
- **Init Fore Draft:** N/A
- **Init Aft Bin:** N/A
- **Init Fore Bin:** N/A

### Placement Information:

- **Placement Start:**
  - **Time:** 11/10/2008 10:54:13
  - **Lat:** 42.428037
  - **Long:** -70.578593
- **Aft Draft:** 14.83 ft
- **Aft Bin:** N/A

- **Placement End:**
  - **Time:** 11/10/2008 10:54:27
  - **Lat:** 42.428030
  - **Long:** -70.578048
- **Aft Draft:** 13.02 ft
- **Aft Bin:** N/A

**Material Source:** Unknown  
**Material Description:** Unknown

**Wave Information Recorded:** 11/10/2008 7:17:15 AM (Local)  
**Wave Height:** 1.6 ft  
**Dominant Wave Period:** 9.0 sec  
**NOAA Station:** 44013

---

**Notes:** SAIC designated placement locations illustrate a successful placement of material in disposal site target.

**SAIC Point of Contact:** Marc Wakeman  
**Phone:** (401)847-4210  
**E-mail:** info@adiss-afiss.com

**Version:** 111008_165805

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http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=105586,105590,105650,...
2008 Boston Harbor Maintenance Dredging
W912WJ-07-C-0023

Draft / Speed for Trip: 301 Scow: GL65

Aft Draft

Speed

Initial Draft
15.44

Initial Disposal Speed
6.3

Placement Information:
Placement Start:
Time: 11/10/2008 10:54:13
Latitude: 42.428037
Longitude: -70.578593
Aft Draft: 14.83 ft
Fore Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Placement End:
Time: 11/10/2008 10:54:27
Latitude: 42.428030
Longitude: -70.578048
Aft Draft: 13.02 ft
Forward Draft: N/A
Aft Bin: N/A
Fore Bin: N/A

Trip Information:
Trip #: 301
Tug Name: Harold A. Reinaeur II
Captain(s): Unknown
Scow Name: GL65
Type: Split Hull Scow
Technique: Bottom Dump
Bin Volume: 3800 cu yd
Start Time: 11/10/2008 07:17:15
Init Aft Draft: 15.44 ft
Init Fore Draft: N/A
Init Aft Bin: N/A
Init Fore Bin: N/A

Material Source: Unknown
Material Description: Unknown

Data Information:
Type: ADISSPlay Data.
Notes:
SAIC designated placement locations illustrate a successful placement of material in disposal site target.

SAIC Point of Contact: Marc Wakeman
Phone: (401)847-4210
E-mail: info@adiss-afiss.com

Version: 111008_165805

http://www.adiss-afiss.com/pages/print/print_trips.asp?pr_peids=105586,105590,105650,...
Appendix B

Sediment-Profile Image Results
<table>
<thead>
<tr>
<th>Station</th>
<th>Replicate</th>
<th>Mean Dredged Material Thickness (cm)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>01-25-SE</td>
<td>A</td>
<td>0.22</td>
<td></td>
</tr>
<tr>
<td>01-25-SE</td>
<td>B</td>
<td>0.38</td>
<td></td>
</tr>
<tr>
<td>01-25-SE</td>
<td>C</td>
<td>0.43</td>
<td></td>
</tr>
<tr>
<td>01-50-W</td>
<td>A</td>
<td>0.41</td>
<td></td>
</tr>
<tr>
<td>01-50-W</td>
<td>B</td>
<td>0.18</td>
<td></td>
</tr>
<tr>
<td>01-50-W</td>
<td>C</td>
<td>0.53</td>
<td></td>
</tr>
<tr>
<td>01-100-W</td>
<td>A</td>
<td>0.11</td>
<td>Discontinuous</td>
</tr>
<tr>
<td>01-100-W</td>
<td>B</td>
<td>0.13</td>
<td>Discontinuous</td>
</tr>
<tr>
<td>01-100-W</td>
<td>C</td>
<td>&lt;0.04</td>
<td>Trace, discontinuous</td>
</tr>
<tr>
<td>01-200-N</td>
<td>A</td>
<td>0.82</td>
<td>Mixed</td>
</tr>
<tr>
<td>01-200-N</td>
<td>B</td>
<td>0.88</td>
<td></td>
</tr>
<tr>
<td>01-200-N</td>
<td>C</td>
<td>0.64</td>
<td>Mixed</td>
</tr>
<tr>
<td>01-200-W</td>
<td>A</td>
<td>0.14</td>
<td>Discontinuous</td>
</tr>
<tr>
<td>01-200-W</td>
<td>B</td>
<td>0.15</td>
<td>Trace</td>
</tr>
<tr>
<td>01-200-W</td>
<td>C</td>
<td>0.12</td>
<td>Trace, discontinuous</td>
</tr>
<tr>
<td>01-250-N</td>
<td>A</td>
<td>0.85</td>
<td>Partially mixed</td>
</tr>
<tr>
<td>01-250-N</td>
<td>B</td>
<td>0.59</td>
<td></td>
</tr>
<tr>
<td>01-250-N</td>
<td>C</td>
<td>0.44</td>
<td></td>
</tr>
<tr>
<td>01-250-W</td>
<td>A</td>
<td>0.20</td>
<td>Trace, discontinuous</td>
</tr>
<tr>
<td>01-250-W</td>
<td>B</td>
<td>0.05</td>
<td>Trace, discontinuous</td>
</tr>
<tr>
<td>01-250-W</td>
<td>C</td>
<td>0.19</td>
<td></td>
</tr>
<tr>
<td>01-300-N</td>
<td>A</td>
<td>&lt;0.04</td>
<td>Trace, discontinuous</td>
</tr>
<tr>
<td>01-300-N</td>
<td>B</td>
<td>0.49</td>
<td></td>
</tr>
<tr>
<td>01-300-N</td>
<td>C</td>
<td>0.35</td>
<td></td>
</tr>
<tr>
<td>01-300-W</td>
<td>A</td>
<td>0.08</td>
<td></td>
</tr>
<tr>
<td>01-300-W</td>
<td>B</td>
<td>0.19</td>
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</tr>
<tr>
<td>01-300-W</td>
<td>C</td>
<td>0.19</td>
<td>Discontinuous</td>
</tr>
<tr>
<td>01-350-N</td>
<td>A</td>
<td>0.70</td>
<td>Disturbed, discontinuous; clasts at depth are smear artifacts</td>
</tr>
<tr>
<td>01-350-N</td>
<td>B</td>
<td>0.08</td>
<td></td>
</tr>
<tr>
<td>01-350-N</td>
<td>C</td>
<td>0.61</td>
<td></td>
</tr>
<tr>
<td>01-350-W</td>
<td>A</td>
<td>0.04</td>
<td>Trace, discontinuous</td>
</tr>
<tr>
<td>01-350-W</td>
<td>B</td>
<td>&lt;0.04</td>
<td>Trace, discontinuous</td>
</tr>
<tr>
<td>01-350-W</td>
<td>C</td>
<td>0.05</td>
<td>Trace, discontinuous</td>
</tr>
<tr>
<td>01-400-N</td>
<td>A</td>
<td>0.85</td>
<td>Mixed, clast at depth, possible layering</td>
</tr>
<tr>
<td>01-400-N</td>
<td>B</td>
<td>0.50</td>
<td></td>
</tr>
<tr>
<td>01-400-N</td>
<td>C</td>
<td>0.69</td>
<td>13.9 cm total DM, some perhaps old at depth</td>
</tr>
<tr>
<td>01-400-W</td>
<td>A</td>
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<tr>
<td>01-400-W</td>
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<td>01-400-W</td>
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<td>01-475-N</td>
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<td>01-550-N</td>
<td>B</td>
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<td>Trace, unmeasurable due to mixing. Possible clasts 10 cm below SWI</td>
</tr>
<tr>
<td>01-550-N</td>
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<td>C</td>
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<td>Trace, discontinuous</td>
</tr>
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<td>01-650-N</td>
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<td>Trace, unmeasurable.</td>
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<td>Trace, unmeasurable.</td>
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<tr>
<td>01-650-W</td>
<td>B</td>
<td>0.10</td>
<td>Thin dusting</td>
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<td>01-650-W</td>
<td>C</td>
<td>&lt;0.04</td>
<td>Trace, unmeasurable.</td>
</tr>
<tr>
<td>01-700-W</td>
<td>A</td>
<td>0.02</td>
<td>Trace, discontinuous</td>
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<td>01-700-W</td>
<td>B</td>
<td>0.04</td>
<td>Trace, discontinuous</td>
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<td>01-700-W</td>
<td>C</td>
<td>0.07</td>
<td>Trace, discontinuous</td>
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<td>Trace, unmeasurable.</td>
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</tr>
<tr>
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<td>Thin dusting</td>
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<td>01-800-W</td>
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<td>0.16</td>
<td>DM in sed column are wiper clast artifacts</td>
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<tr>
<td>01-850-N</td>
<td>A</td>
<td>&lt;0.02</td>
<td>Trace, unmeasurable, barely visible as dusting</td>
</tr>
<tr>
<td>01-850-N</td>
<td>B</td>
<td>&lt;0.02</td>
<td>Trace, unmeasurable, barely visible as dusting</td>
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<td>C</td>
<td>&lt;0.02</td>
<td>Trace, unmeasurable, barely visible as dusting</td>
</tr>
<tr>
<td>01-900-N</td>
<td>A</td>
<td>&lt;0.02</td>
<td>Trace, unmeasurable, barely visible as dusting</td>
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<tr>
<td>01-900-N</td>
<td>B</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>01-900-N</td>
<td>C</td>
<td>&lt;0.02</td>
<td>Trace, unmeasurable, barely visible as dusting</td>
</tr>
<tr>
<td>01-1050-N</td>
<td>A</td>
<td>&lt;0.02</td>
<td>Trace, barely perceptible.</td>
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<tr>
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<td>B</td>
<td>&lt;0.02</td>
<td>Trace, barely perceptible.</td>
</tr>
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<td>01-1050-N</td>
<td>C</td>
<td>&lt;0.02</td>
<td>Trace, barely perceptible.</td>
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<tr>
<td>01-1150-N</td>
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<td>Diffuse mixed</td>
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<td>Thin laminar dusting</td>
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<td>C</td>
<td>&lt;0.02</td>
<td>Trace, barely perceptible.</td>
</tr>
<tr>
<td>01-CTR</td>
<td>A</td>
<td>5.35</td>
<td>Chaotic fabric</td>
</tr>
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<td>01-CTR</td>
<td>B</td>
<td>7.15</td>
<td>Chaotic fabric</td>
</tr>
<tr>
<td>01-CTR</td>
<td>C</td>
<td>4.71</td>
<td>Multiple small clay clasts</td>
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<td>06-Center</td>
<td>A</td>
<td>10.69</td>
<td>&gt;p chaotic</td>
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<td>06-Center</td>
<td>B</td>
<td>10.17</td>
<td>&gt;p chaotic</td>
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<tr>
<td>06-Center</td>
<td>C</td>
<td>9.46</td>
<td>&gt;p chaotic</td>
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<tr>
<td>11-500-N</td>
<td>A</td>
<td>&lt;0.04</td>
<td>Trace mixed, old DM 12.7 cm</td>
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<tr>
<td>11-500-N</td>
<td>B</td>
<td>&lt;0.04</td>
<td>Trace barely perceptible new DM, old DM to -15 cm</td>
</tr>
<tr>
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<td>C</td>
<td>&lt;0.04</td>
<td>Trace barely perceptible new DM, old DM to -13 cm</td>
</tr>
<tr>
<td>11-550-N</td>
<td>A</td>
<td>&lt;0.02</td>
<td>Trace barely perceptible new DM, old DM to -15.8 cm</td>
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<tr>
<td>11-550-N</td>
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<td>&lt;0.02</td>
<td>Trace barely perceptible new DM, old DM to -16 cm</td>
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<tr>
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<td>0.00</td>
<td>Old DM present.</td>
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<tr>
<td>11-600-N</td>
<td>A</td>
<td>0.00</td>
<td>Old DM to -17 cm</td>
</tr>
<tr>
<td>11-600-N</td>
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<td>0.00</td>
<td>Old DM to -15 cm &gt;p</td>
</tr>
<tr>
<td>11-600-N</td>
<td>C</td>
<td>0.00</td>
<td>Old DM to -15 cm &gt;p</td>
</tr>
<tr>
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<td>&lt;0.02</td>
<td>Trace barely perceptible new DM, old DM to -19 cm</td>
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<tr>
<td>11-650-N</td>
<td>B</td>
<td>0.00</td>
<td>Old DM &gt;P</td>
</tr>
<tr>
<td>11-650-N</td>
<td>C</td>
<td>0.00</td>
<td>Old DM &gt;P, 17 cm</td>
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<td>Mean Dredged Material Thickness (cm)</td>
<td>Comment</td>
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<tr>
<td>11-700-N</td>
<td>A</td>
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<td>Trace barely perceptible new DM, old DM to -15.3 cm, &gt;P</td>
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<tr>
<td>11-700-N</td>
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<td>0.00</td>
<td>Old DM &gt;P, 16.1 cm.</td>
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<tr>
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<td>0.00</td>
<td>Old DM &gt;P, 15.5 cm.</td>
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<td>11-750-N</td>
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<td>Old DM &gt;P</td>
</tr>
<tr>
<td>11-750-N</td>
<td>B</td>
<td>&lt;0.02</td>
<td>Trace barely perceptible new DM, old DM to -13.5 cm, &gt;P</td>
</tr>
<tr>
<td>11-750-N</td>
<td>C</td>
<td>0.00</td>
<td>Old DM &gt;P, 14.9 cm.</td>
</tr>
<tr>
<td>11-800-N</td>
<td>A</td>
<td>&lt;0.02</td>
<td>Trace barely perceptible new DM, old DM to -15.5 cm, &gt;P</td>
</tr>
<tr>
<td>11-800-N</td>
<td>B</td>
<td>&lt;0.02</td>
<td>Trace new DM, old DM to -16.9 cm, &gt;P</td>
</tr>
<tr>
<td>11-800-N</td>
<td>C</td>
<td>0.00</td>
<td>Old DM &gt;P, 16.9 cm.</td>
</tr>
<tr>
<td>11-850-N</td>
<td>A</td>
<td>0.00</td>
<td>Old DM &gt;P, 14.6 cm.</td>
</tr>
<tr>
<td>11-850-N</td>
<td>B</td>
<td>0.00</td>
<td>Old DM 15.4 cm.</td>
</tr>
<tr>
<td>11-850-N</td>
<td>C</td>
<td>0.00</td>
<td>Old DM &gt;P, 14.6 cm.</td>
</tr>
<tr>
<td>11-900-N</td>
<td>A</td>
<td>0.00</td>
<td>Old DM &gt;P, 14.9 cm.</td>
</tr>
<tr>
<td>11-900-N</td>
<td>B</td>
<td>0.00</td>
<td>Old DM &gt;P</td>
</tr>
<tr>
<td>11-900-N</td>
<td>C</td>
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<td>Old DM 15.3 cm.</td>
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<tr>
<td>11-950-N</td>
<td>A</td>
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<td>Old DM at bottom of frame but surface disturbed from sampling</td>
</tr>
<tr>
<td>11-950-N</td>
<td>B</td>
<td>0.00</td>
<td>Clay appears to be smearing artifact</td>
</tr>
<tr>
<td>11-950-N</td>
<td>C</td>
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<td>Clay appears to be smearing artifact</td>
</tr>
<tr>
<td>11-950-N</td>
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</tr>
<tr>
<td>11-1000-N</td>
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<td>0.00</td>
<td>Clay appears to be smearing artifact</td>
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<td>B</td>
<td>0.00</td>
<td>Clay appears to be smearing artifact</td>
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<td>11-1000-N</td>
<td>C</td>
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<td>Clay appears to be smearing artifact</td>
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<tr>
<td>11-1050-N</td>
<td>A</td>
<td>0.20</td>
<td>Trace of new DM over old DM &gt;P</td>
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<tr>
<td>11-1050-N</td>
<td>B</td>
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<td>Trace of new DM over old DM &gt;P</td>
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<tr>
<td>11-1100-N</td>
<td>A</td>
<td>0.26</td>
<td>Trace of new DM over old DM &gt;P</td>
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<td>11-1100-N</td>
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<td>&lt;0.02</td>
<td>Trace of new DM over old DM &gt;P</td>
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<tr>
<td>11-1150-N</td>
<td>A</td>
<td>0.00</td>
<td>Trace barely perceptible new DM</td>
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<tr>
<td>11-1150-N</td>
<td>B</td>
<td>&lt;0.02</td>
<td>Trace barely perceptible new DM</td>
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<td>11-1200-N</td>
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<td>C</td>
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<td>Trace barely perceptible new DM</td>
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<tr>
<td>11-1200-N</td>
<td>D</td>
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<td>Trace barely perceptible new DM</td>
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<tr>
<td>11-Center</td>
<td>A</td>
<td>8.63</td>
<td>Chaotic fabric with cohesive clay</td>
</tr>
<tr>
<td>11-Center</td>
<td>B</td>
<td>5.78</td>
<td>Chaotic, ill defined layer, but obviously fresh DM</td>
</tr>
<tr>
<td>11-Center</td>
<td>C</td>
<td>7.07</td>
<td>Chaotic fabric with cohesive clay</td>
</tr>
<tr>
<td>11-Center</td>
<td>D</td>
<td>7.12</td>
<td>Chaotic fabric with cohesive clay</td>
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Notes: Ind.=Indeterminate  
pen=penetration
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<tr>
<th>Station</th>
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<th>Comment</th>
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<tbody>
<tr>
<td>BARS-01-01</td>
<td></td>
<td>5.1</td>
<td>distinct DM layer, some mixing w/ ambient at bottom of DM layer</td>
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<tr>
<td>BARS-01-02</td>
<td></td>
<td>1.7</td>
<td>surface DM layer is thin and mixed; extensive downward smearing of clay clasts in image</td>
</tr>
<tr>
<td>BARS-01-03</td>
<td></td>
<td>1.0</td>
<td>surface DM layer is thin+mixed and slightly discontinuous; slight downward smearing of whitish clay</td>
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<tr>
<td>BARS-01-04</td>
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<td>0.3</td>
<td>DM layer discontinuous and mixed, w/ dragdown of small, light grey clasts</td>
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<tr>
<td>BARS-01-05</td>
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<td>0.3</td>
<td>DM layer thin, discontinuous and mixed, some dragdown of whitish clay</td>
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<tr>
<td>BARS-01-06</td>
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<td>8.6</td>
<td>Chaotic fabric w/ extensive smearing of clay@depth; Discrete DM layer w/ extensive mixing w/ ambient @ depth</td>
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<tr>
<td>BARS-01-07</td>
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<td>&gt;3.4 (&gt;pen)</td>
<td>DM&gt;pen; low pen = clay must be very stiff @ depth=very large cohesive clump?</td>
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<tr>
<td>BARS-01-09</td>
<td>Ind.</td>
<td></td>
<td>No pen = assume fresh DM consisting of very stiff clay</td>
</tr>
<tr>
<td>BARS-01-10</td>
<td>Ind.</td>
<td></td>
<td>No pen; clay chunks visible in farfield; assume fresh DM=stiff clay</td>
</tr>
<tr>
<td>BARS-01-11</td>
<td>Ind.</td>
<td></td>
<td>water shot w/ planview camera visible=SPI prism did not descend=resting on clump of stiff DM??</td>
</tr>
<tr>
<td>BARS-01-13</td>
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<td>&gt;15.3 (&gt;pen)</td>
<td>DM&gt;pen=SPI camera has transected a relatively large cohesive clay chunk</td>
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<tr>
<td>BARS-01-14</td>
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<td>&gt;1.1 (&gt;pen)</td>
<td>DM&gt;pen; very low penetration=DM is very stiff clay</td>
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<tr>
<td>BARS-01-15</td>
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<td>&gt;6.5 (&gt;pen)</td>
<td>DM&gt;pen; moderate pen=DM is smaller cohesive clay clasts; some ambient mixed in</td>
</tr>
<tr>
<td>BARS-01-16</td>
<td></td>
<td>&gt;0.8 (&gt;pen)</td>
<td>DM&gt;pen; very low pen=dm is stiff clay clumps+clasts</td>
</tr>
<tr>
<td>BARS-01-17</td>
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<td>&gt;pen</td>
<td>DM&gt;pen; low pen=dm is very stiff clay; mix of large and small cohesive clumps in farfield</td>
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<tr>
<td>BARS-01-18</td>
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<td>3.8</td>
<td>discrete surface layer of DM; bottom of DM layer is indistinct due to mixing w/ ambient; extensive dragdown of clay</td>
</tr>
<tr>
<td>BARS-01-19</td>
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<td>1.9</td>
<td>discrete surface layer of DM; bottom of DM layer indistinct/mixed; dragdown of clay</td>
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<td>Discrete surface layer of DM w/ indistinct bottom due to mixing w/ ambient; clay dragdown</td>
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<td>DM&gt;pen; low pen=clay is very stiff/cohesive; large cohesive chunks</td>
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<td>&gt;3.6 (&gt;pen)</td>
<td>DM&gt;pen; low pen=stiff clay chunk</td>
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<td>BARS-01-23</td>
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<td>&gt;12.9 (&gt;pen)</td>
<td>DM&gt;pen=large angular clumps of very stiff clay w/ high relief</td>
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<td>BARS-01-24</td>
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<td>&gt;2.1 (&gt;pen)</td>
<td>DM&gt;pen; low pen=assume very stiff clay chunks</td>
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<tr>
<td>BARS-01-25</td>
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<td>&gt;9.2 (&gt;pen)</td>
<td>DM&gt;pen; mix of small cohesive clumps@swi over softer clay material@depth</td>
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<td>&gt;4.4 (&gt;pen)</td>
<td>DM&gt;pen; low pen=very stiff clay clunks</td>
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<td>BARS-01-27</td>
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<td>&gt;11.1 (&gt;pen)</td>
<td>DM&gt;pen; softer clay material w/ small cohesive clasts@swi</td>
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<tr>
<td>BARS-01-28</td>
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<td>Discrete DM layer over ambient; bottom of Dm layer is mixed/indistinct</td>
</tr>
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<td>Discrete DM layer over ambient; bottom of Dm layer is mixed/indistinct</td>
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<td>Discrete DM layer over ambient; bottom of Dm layer is mixed/indistinct</td>
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<tr>
<td>BARS-01-31</td>
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<td>Trace DM; mixed with ambient</td>
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<td>BARS-01-32</td>
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<td>&gt;pen</td>
<td>No pen; clay chunks in farfield; assume very stiff clay DM</td>
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<td>Ind.</td>
<td></td>
<td>No pen = assume fresh DM consisting of very stiff clay</td>
</tr>
<tr>
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<td>BARS-01-35</td>
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<td>DM&gt;pen; low pen=large angular chunks of very stiff clay</td>
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<tr>
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<td>&gt;11.0 (&gt;pen)</td>
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<td>3.9</td>
<td>Discrete DM layer over ambient; bottom of DM layer mixed w. ambient; DM=loose w/ very small clasts; dragdown/smearing of clay to depth</td>
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Notes: Ind.=Indeterminate
pen=penetration
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### August 2008 SPI Survey (continued)

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<td>water shot, not washed can map streaks</td>
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Notes: Ind.=Indeterminate  
pen=penetration
Appendix C

Sediment Core Logs
Client: U.S. ACE
Project Number: 9000-461
Station Number:
GPS Coordinates: See Logbook
Geographic Reference: Massachusetts Bay
Water Depth: M.L.W.
Weather: See Logbook
Survey Vessel: Shanna Rose
Survey Personnel: See Logbook
Sampling Equipment: See Logbook
Estimated Penetration Range: Project Depth: Actual Penetration:

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<td>SOFT OLIVE BROWN SILT W/ FINE TO MEDIUM SAND</td>
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<tr>
<td>30</td>
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<td>SHELL FRAGMENTS THROUGHOUT TO 33cm ABROPT TRANSITION</td>
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<td>SOFT OLIVE BROWN SILT W/ TRACE FINE SAND SHELL FRAGMENTS THROUGHOUT</td>
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HORZ SHEAR (Kg/cm²)

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Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B - A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
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NOTES:

- Unpenetrated Barrel/Cable Length (A) = Actual Penetration (C) - B
- Penetrated Barrel/Cable Length (B) = Recovered Core Length (D)
Client: U.S. ACE
Project Number: 9000-461
Station Number:
GPS Coordinates: See Logbook
Geographic Reference: Massachusetts Bay
Water Depth:
Weather: See Logbook
Survey Vessel: Shanna Rose
Logged By: DMC
Date: Time (Logging):
Survey Personnel: See Logbook
Sampling Equipment: See Logbook
Estimated Penetration Range: Project Depth:
Actual Penetration:
Recovery:
% Recovery:
No. Attempts:

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<td>Transition to clay</td>
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<td>Silt w/ trace fine sand</td>
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Vane shear kN/m²

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B - A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
**Client:** U.S. ACE  
**Project Number:** 9000-461  
**Station Number:**  
**GPS Coordinates:** See Logbook  
**Geographic Reference:** Massachusetts Bay  
**Water Depth:** MLW:  
**Weather:** See Logbook  
**Survey Vessel:** Shanna Rose  
**Survey Personnel:** See Logbook  
**Sampling Equipment:** See Logbook  
**Estimated Penetration Range:**  
**Actual Penetration:**  
**Core ID:** 01-6  
**Sheet:** 1 of 2  
**Core Size (in.):** 2.75-in ID  
**Time (Water Depth):**  
**Logged By:**  
**Date:**  
**Time (Coring):**  

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</tr>
<tr>
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<tr>
<td>24</td>
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</tr>
<tr>
<td>135</td>
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</tr>
<tr>
<td>27</td>
<td></td>
<td>SHELL TRAY (0.27 cm)</td>
</tr>
<tr>
<td>150</td>
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</tr>
<tr>
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</tr>
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**NOTES:**

- **Unpenetrated Barrel/Cable Length (A):**  
- **Actual Penetration (C) = B-A**  
- **Penetrated Barrel/Cable Length (B):**  
- **Recovered Core Length (D):**
<table>
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<tr>
<td>0</td>
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<tr>
<td>15</td>
<td></td>
<td>Soft light brown silt w/ trace fine sand</td>
</tr>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>Soft light brown silt w/ trace fine sand</td>
</tr>
<tr>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>75</td>
<td></td>
<td>Soft light brown silt w/ trace fine sand</td>
</tr>
<tr>
<td>90</td>
<td></td>
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<td>180</td>
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**NOTES:**
- Unpenetrated Barrel/Cable Length (A):  
- Actual Penetration (C) = B-A  
- Penetrated Barrel/Cable Length (B):  
- Recovered Core Length (D):  

**PROJECT DATA:**
- Client: U.S.ACE  
- Project Number: 9000-481  
- Station Number:  
- GPS Coordinates: See Logbook  
- Geographic Reference: Massachusetts Bay  
- Water Depth: MLW  
- Weather: See Logbook  
- Seas: Logbook  
- Survey Vessel: Shanna Rose  
- Logged By:  
- Data:  
- Time (Water Depth):  
- Time (Coring):  

**SAMPLE DATA:**
- % Recovery:  
- No. Attempts:  
- VOLUME MEAS.:  

**ANALYTICAL DATA:**
- VANE S#1Q  
- MOISTURE WEIGHT ANAYS (S)  

(continued...
2-6
0-6
6-12
12-18
18-24
24-30
560 C
After Bbl
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<tbody>
<tr>
<td>15</td>
<td>MEDIUM</td>
<td>TAN/Brown soft silt - fine sand</td>
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<td>30</td>
<td>SAND</td>
<td>SAND DEPRESS - basic silt and sand at depth</td>
</tr>
<tr>
<td>45, 60, 75, 90, 105, 120, 135, 150, 165, 180</td>
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</table>

**NOTES:**

- Unpenetrated Barrel/Cable Length (A) = Actual Penetration (C) - B
- Penetrated Barrel/Cable Length (B) = Recovered Core Length (D)
3-1

24-27
30-36
36-42
42-46
48-51

\[ S.4 \alpha \]
Client: U.S. ACE
Project Number: 9000-481
Station Number: Core ID: 3-1
GPS Coordinates: See Logbook
Geographic Reference: Massachusetts Bay
Water Depth: MLW:
Weather: See Logbook
Survey Vessel: Shanna Rose
Survey Personnel: See Logbook
Sampling Equipment: See Logbook
Estimated Penetration Range: Project Depth:
Actual Penetration): Recovery: % Recovery: No. Attempts:

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<td>105</td>
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<td></td>
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<tr>
<td>120</td>
<td></td>
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<tr>
<td>135</td>
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<tr>
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<td>165</td>
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Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):

Notes:

Weight includes tin
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<tr>
<td>15</td>
<td></td>
<td>Light brown/gray w/ some medium and fine sand</td>
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<td>30</td>
<td></td>
<td>Peat/mud @ 8 cm</td>
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<tr>
<td>45</td>
<td></td>
<td>Brown soft silty silt to very fine sand</td>
</tr>
<tr>
<td>60</td>
<td></td>
<td>Sand w/ some small fragments</td>
</tr>
<tr>
<td>75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td></td>
<td></td>
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<tr>
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<td>120</td>
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<tr>
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<td>165</td>
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**NOTES:**

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A
Peneetrated Barrel/Cable Length (B): Recovered Core Length (D):
3-3
0-3
3-4
6-9
9-12
12-18
18-24
24-30
<table>
<thead>
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<tbody>
<tr>
<td>15</td>
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<td></td>
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<tr>
<td>120</td>
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<tr>
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<td></td>
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<tr>
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<td>165</td>
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<tr>
<td>180</td>
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NOTES:
- Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B - A
- Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
<table>
<thead>
<tr>
<th>Depth (cm)</th>
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<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>0</td>
<td></td>
<td>VACE SHEAR KG/cm²</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>TAN/LIGHT BROWN SOFT SILT/CLAY</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>PINE SAND</td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>BROWN Silt/ Clay/ Trace</td>
</tr>
<tr>
<td>60</td>
<td></td>
<td>PINE SAND</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>WEIGHT (g)</td>
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<tr>
<td>15</td>
<td></td>
<td>A 6.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B 6.3</td>
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<td></td>
<td></td>
<td>C 0.9</td>
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<td></td>
<td></td>
<td>D 9.7</td>
</tr>
<tr>
<td>21</td>
<td></td>
<td>E 9.0</td>
</tr>
<tr>
<td>24</td>
<td></td>
<td>F 6.1</td>
</tr>
<tr>
<td>27.5 EOC</td>
<td></td>
<td>G 2.4</td>
</tr>
<tr>
<td>30</td>
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<td>H 1.6</td>
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**NOTES:**

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B - A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
4-2
0-3
3-6
6-9
9-12
12-18
18-24
24-30
### Core Data

**Client:** U.S. ACE  
**Project Number:** 9000-461  
**Station Number:**  
**GPS Coordinates:** See Logbook  
**Geographic Reference:** Massachusetts Bay  
**Water Depth:** MLW  
**Weather:** See Logbook  
**Survey Vessel:** Shanna Rose  
**Logged By:** LMC  
**Date:**  
**Seas:** Logbook  
**Time (Water Depth):**  
**Time (Coring):**  
**Core Size (in.):** 2.75-in ID  
**Survey Personnel:** See Logbook  
**Sampling Equipment:** See Logbook  
**Estimated Penetration Range:**  
**Actual Penetration:**  
**Recovery:**  
**% Recovery:**  
**No. Attempts:**

### Depth vs. Sketch

<table>
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<tbody>
<tr>
<td>0</td>
<td></td>
<td>TAV/LIGHT BROWN &quot;COrestrict SOFT Silt w/ SOME FINN SAND</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>LIGHT BROWN SOFT Silt w/ SOME FINN SAND</td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>SOME TAN STREAKS</td>
</tr>
<tr>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>105</td>
<td></td>
<td></td>
</tr>
<tr>
<td>120</td>
<td></td>
<td></td>
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<tr>
<td>135</td>
<td></td>
<td></td>
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<tr>
<td>150</td>
<td></td>
<td></td>
</tr>
<tr>
<td>165</td>
<td></td>
<td></td>
</tr>
<tr>
<td>180</td>
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</tr>
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### Notes

- Unpenetrated Barrel/Cable Length (A):  
- Actual Penetration (C) = B - A  
- Penetrated Barrel/Cable Length (B):  
- Recovered Core Length (D):
**Client:** U.S. ACE  
**Project Number:** 9000-461  
**Station Number:**  
**GPS Coordinates:** See Logbook  
**Geographic Reference:** Massachusetts Bay  
**Water Depth:** MLW  
**Core Size (in.):** 2.75-in OD  
**Weather:** See Logbook  
**Surveys Vessel:** Shanna Rose  
**Logged By:**  
**Date:**  
**Seas Logbook:**  
**Time (Water Depth):**  
**Survey Personnel:** See Logbook  
**Sampling Equipment:** See Logbook  
**Estimated Penetration Range:**  
**Project Depth:**  
**Actual Penetration:**  
**Recovery:**  
**% Recovery:**  
**No. Attempts:**  

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<td>0-6</td>
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<td>F/V x 0.12</td>
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<tr>
<td>6-12</td>
<td></td>
<td>0.12 x 0.13</td>
</tr>
<tr>
<td>12-15</td>
<td></td>
<td>0.12 x 0.12</td>
</tr>
<tr>
<td>15-30</td>
<td></td>
<td>0.24 x 0.15</td>
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<tr>
<td>30-60</td>
<td></td>
<td>0.36 x 0.25</td>
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<tr>
<td>60-90</td>
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<td>0.36 x 0.36</td>
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<td>90-120</td>
<td></td>
<td>0.36 x 0.35</td>
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<td>120-135</td>
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<td>135-150</td>
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<td>150-165</td>
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<td>165-180</td>
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**NOTES:**

**Unpenetrated Barrel/Cable Length (A):** Actual Penetration (C) = B-A  
**Penetrated Barrel/Cable Length (B):** Recovered Core Length (D):
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<tr>
<td>0</td>
<td></td>
<td>Vampire Silt 1 kg/cm²</td>
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<td></td>
<td>Tan/Light Brown Silt w/Trace Fine Sand</td>
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<td>30</td>
<td></td>
<td>Red Worm 0.2 cm</td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>Worm Eviscerated 0.8 cm</td>
</tr>
<tr>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>75</td>
<td></td>
<td>Transition to Light Brown Silt w/Trace Sand</td>
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<tr>
<td>90</td>
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</tr>
<tr>
<td>105</td>
<td></td>
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</tr>
<tr>
<td>120</td>
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<td></td>
</tr>
<tr>
<td>135</td>
<td></td>
<td>Mussel Shell 0.28 cm</td>
</tr>
<tr>
<td>150</td>
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<td>30 cm EDC</td>
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<td>165</td>
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**NOTES:**

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B - A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D): 
**DESCRIPTION**

**Firm Blue Clay Clast**
- Size to 19.5 cm
- Sitting on curved surface
- Top of clast is pullulated compact

**Blue Clay**
- Active
- Consists of clays 0-15 cm

**Zone 19-29 cm**
- Consists of light gray fine gravel
- Well mixed with another clay clast (~15 cm)
- Active pebbles ~1 cm sitting on the clay clast at base

**Following 1-15 cm**
- Darkening and color change to light brown

**Firm Clay/Peat**
- Size to 47 cm
- 15 Mix brown light yellow - white mottled color

**Gray Green Uniform**
- Size to 47 cm
- Hinged shell at 7 cm (mussel)
- (Hinged to B)

**47 cm**
- 30-47 = Mable's color zone
- 1S Samp of brown color LT/MED with very dark indications

**NOTES:**

Uncutpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
<table>
<thead>
<tr>
<th>Depth (cm)</th>
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<td>105</td>
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<td>165</td>
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<td>180</td>
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**NOTES:**

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B - A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
Unpenetrated Barrel/Cable Length (A):  Actual Penetration (C) = B - A
Penetrated Barrel/Cable Length (B):  Recovered Core Length (D):
Depth (cm) | Sketch | Description
---|---|---
15 | | 4-10
30 | | 16-21 0.14
45 | | 21-24 0.18 24-27
60 | | 27-30 0.22 30-36
75 | | 36-42 0.20 42-48
90 | | 48-54 0.28 54-60
105 | | 60-66 0.25 66-72
120 | | 72-78
135 | | 78-84
150 | | 84-90
165 | | 90-96
180 | | 96-102

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>SKETCH</th>
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<td>INTERMEDIATE AT 50 cm</td>
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**NOTES:**

Unpenetrated Barrel/Cable Length (A):  Actual Penetration (C) = B - A
Penetrated Barrel/Cable Length (B):  Recovered Core Length (D):
0-4.5 cm = loose Boston blue clay at SFE

4.5 - 20 cm very compacted clay clay with rounded particles varying in water

20 - 35 cm clay mixed with pebbles and sand

Large pebble at 31 cm depth (~2 cm dia.)

35-75 cm: Curved interface into uniform

Grey/Green 31 cm interface

Vanishing

<table>
<thead>
<tr>
<th>Depth (cm)</th>
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</tr>
<tr>
<td>20-35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35-75</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTES:

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B - A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = 8-A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
Client: U.S. ACE
CORE ID:
9-1
Project Number: 9000-461
Station Number:
GPS Coordinates: See Logbook
Geographic Reference: Massachusetts Bay
Water Depth: Core Size (in.): 2.75-in OD
MLW:
Weather: See Logbook
Surveys Vessel: Shanna Rose
Logged By: Date:
Survey Personnel: See Logbook
Seas: Logbook
Sampling Equipment: See Logbook
Time (Water Depth):
Estimated Penetration Range:
Project Depth:
Actual Penetration:
Recovery:
% Recovery:
No. Attempts:

Depth (cm)  DESCRIPTION
15  GROUP OF CLAY CLAYS TO 10 CM THICK ON AERIALI SECT
30  UNFREEZED, NARROWED
55  COMPLETE IMMEDIATELY BELOW TO 50 CM
65  SLIGHTLY REDUCED, BEGINS TO ABOUT 8 CM
75
90
105
120
135
150
165
180

NOTES:
Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B - A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td></td>
<td>B-40 cm clay (Brown Blue) 0-6 0.18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6-12 0.20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12-18 0.20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18-24 0.12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>COMPETENT B-40 cm clay 24-30 0.82</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30-36 0.26</td>
</tr>
</tbody>
</table>

**Unpenetrated Barrel/Cable Length (A):** Actual Penetration (C) = B - A  
**Penetrated Barrel/Cable Length (B):** Recovered Core Length (D):
### Depth (cm) vs. Description

<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>Sketch</th>
<th>Description</th>
<th>Recovery</th>
<th>% Recovery</th>
<th>No. Attempts</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td></td>
<td>gravel (~ 2 cm) at surface</td>
<td>0.6</td>
<td>0.14</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>washed surface</td>
<td>1.2</td>
<td>0.18</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>competent silt up to 5 cm</td>
<td>12-18</td>
<td>0.31</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td></td>
<td>not normally reduced</td>
<td>18-24</td>
<td>0.23</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td></td>
<td>biologic artifact at 23 cm</td>
<td>30-36</td>
<td>0.36</td>
<td></td>
</tr>
<tr>
<td>90</td>
<td></td>
<td>fish vertebrae</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>120</td>
<td></td>
<td>clay clots 2-3 cm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>135</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>150</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>165</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>180</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A

Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td></td>
<td>WASHED SURFACE, REACH AT THE 3½ (too shallow 3½ feet)</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>EASTERN COMPOSITES, BECOMES COMPTETENT BELOW 20</td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>COMPTETENT 2½-3½ (BARE + TAN)</td>
</tr>
<tr>
<td>60</td>
<td></td>
<td>LIGHTER 10-20 W/ SAMP MATERIAL</td>
</tr>
<tr>
<td>75</td>
<td></td>
<td>Slightly RAGGED 25-35 W/ BURROW NODULE 24 X 33</td>
</tr>
<tr>
<td>90</td>
<td></td>
<td>Dark Horizon 25-38 /angle</td>
</tr>
<tr>
<td>105</td>
<td></td>
<td>Uniform Gray /lighten Near 200</td>
</tr>
<tr>
<td></td>
<td></td>
<td>With partial break at 59</td>
</tr>
<tr>
<td>120</td>
<td></td>
<td>VANE SHALL</td>
</tr>
<tr>
<td>135</td>
<td></td>
<td>0-6 0.06</td>
</tr>
<tr>
<td>150</td>
<td></td>
<td>6-12 0.1</td>
</tr>
<tr>
<td>165</td>
<td></td>
<td>12-18 0.13</td>
</tr>
<tr>
<td>180</td>
<td></td>
<td>18-24 0.12</td>
</tr>
<tr>
<td>200</td>
<td></td>
<td>24-32 0.16</td>
</tr>
<tr>
<td>215</td>
<td></td>
<td>30-36 0.2</td>
</tr>
</tbody>
</table>

NOTES:

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>Sketch</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td></td>
<td>Surface area washed, contains a thin film of core tan material around top.</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>Light tan to 9 cm.</td>
</tr>
<tr>
<td>33-35</td>
<td></td>
<td>19 cm light grey sand.</td>
</tr>
<tr>
<td>75</td>
<td></td>
<td>33-35 cm dark grey observed below.</td>
</tr>
<tr>
<td>90</td>
<td></td>
<td>Subsample above the band.</td>
</tr>
<tr>
<td>105</td>
<td></td>
<td>Monza grey to 19 cm.</td>
</tr>
<tr>
<td>120</td>
<td></td>
<td>Light grey 22-28.</td>
</tr>
<tr>
<td>135</td>
<td></td>
<td>Mixa medium to 35.5.</td>
</tr>
<tr>
<td>150</td>
<td></td>
<td>Dark grey 31.5-35.5.</td>
</tr>
<tr>
<td>165</td>
<td></td>
<td>Uniform grey/grey below 35.5 cm.</td>
</tr>
<tr>
<td>180</td>
<td></td>
<td>Stream at 54.67.</td>
</tr>
</tbody>
</table>

**Notes:**

- Lower core section cut at 55 cm not marked.

**Unpenetrated Barrel/Cable Length (A):** Actual Penetration (C) = B - A

**Penetrated Barrel/Cable Length (B):** Recovered Core Length (D):
<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td></td>
<td>1 cm FLUVIATED SURFACE WITH 2-3 cm DIA. CLAST Veneer</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>UNIFORM BROWN 7 CM DIAMETER SHELLS</td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>FILLER 12-15</td>
</tr>
<tr>
<td>60</td>
<td></td>
<td>* Quilt Finish (consistent below 82) * Very Uniform Texture</td>
</tr>
<tr>
<td>75</td>
<td></td>
<td>Some evidence of variance * CLAST * north flank is cut</td>
</tr>
<tr>
<td>90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>105</td>
<td></td>
<td></td>
</tr>
<tr>
<td>120</td>
<td></td>
<td></td>
</tr>
<tr>
<td>135</td>
<td></td>
<td></td>
</tr>
<tr>
<td>150</td>
<td></td>
<td></td>
</tr>
<tr>
<td>165</td>
<td></td>
<td></td>
</tr>
<tr>
<td>180</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B - A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td></td>
<td>Bustin burnt pool at surface 6-7.5 cm</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>Litter burnt Sediment 7.5 to 20 cm</td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>Possibly &quot;Fires up&quot; at 20 cm</td>
</tr>
<tr>
<td>60</td>
<td></td>
<td>Average grey/charredremain leading to lower to EDC at 76 cm</td>
</tr>
<tr>
<td>75</td>
<td></td>
<td>Also shell remains at 14 cm</td>
</tr>
<tr>
<td>90</td>
<td></td>
<td>VASES burns</td>
</tr>
<tr>
<td>105</td>
<td></td>
<td>0-1 cm - 0.13</td>
</tr>
<tr>
<td>120</td>
<td></td>
<td>1-12 - 0.13</td>
</tr>
<tr>
<td>135</td>
<td></td>
<td>2-12 - 0.25</td>
</tr>
<tr>
<td>150</td>
<td></td>
<td>2-24 - 0.44</td>
</tr>
<tr>
<td>165</td>
<td></td>
<td>24-30 - 0.29</td>
</tr>
<tr>
<td>180</td>
<td></td>
<td>30-30 - 0.30</td>
</tr>
</tbody>
</table>

NOTES: Density taken from A, C, E

- Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B - A
- Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5/6 cm</td>
<td>Dark Brown Fine Sediment at Surface</td>
<td>0-5/6 cm: Dark Brown Fine Sediment at Surface on Replying Cannor 3 cm ledge/6 cm anterior</td>
</tr>
<tr>
<td>5/6 cm</td>
<td></td>
<td>5/6 cm: Light Gray/Green Sediment is uniform</td>
</tr>
<tr>
<td>33-36 cm</td>
<td>Grey-Brown Band</td>
<td>33-36 cm: Grey-Brown Band (approx. 18 cm) SWEEP LEAK (approximately 18 cm)</td>
</tr>
<tr>
<td>36 cm</td>
<td>mark</td>
<td>mark</td>
</tr>
<tr>
<td>36 cm</td>
<td></td>
<td>Slight section of lighter material above recent disturbed layer of sediment. Rapidly dispersed around.</td>
</tr>
<tr>
<td>75 cm</td>
<td></td>
<td>Approximately uniform to 30 cm at 127 cm</td>
</tr>
<tr>
<td>75 cm</td>
<td>T1: 0-3 (pH: 7)</td>
<td>T1: 0-3 (pH: 7)</td>
</tr>
<tr>
<td>90 cm</td>
<td>T2: 0-3/0</td>
<td>T2: 0-3/0</td>
</tr>
<tr>
<td>105 cm</td>
<td>T3: 0-3</td>
<td>T3: 0-3</td>
</tr>
<tr>
<td>120 cm</td>
<td>T4: 0-3/0</td>
<td>T4: 0-3/0</td>
</tr>
<tr>
<td>135 cm</td>
<td>T5: 0-3/0</td>
<td>T5: 0-3/0</td>
</tr>
<tr>
<td>150 cm</td>
<td>T6: 0-3/0</td>
<td>T6: 0-3/0</td>
</tr>
<tr>
<td>165 cm</td>
<td>T7: 0-3/0</td>
<td>T7: 0-3/0</td>
</tr>
<tr>
<td>180 cm</td>
<td>T8: 0-3/0</td>
<td>T8: 0-3/0</td>
</tr>
</tbody>
</table>

NOTES:

- Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A
- Penetrated Barrel/Cable Length (B): Recovered Core Length (U)
Displaced material on top?
mixed with DM

0 - 2 cm: Medium/Light Brown, Soft
Sediment with gravel 2 pieces 1cm and 2cm

2 - 25.5 cm: Gray/Green Sediment / Silt
with Reversals Clay dark gray 2 pieces 1 cm, 20 - 24 cm:
4 cm and 7 cm

Material firms up ~ 25.5 cm (Assume Surface Hardened)
26.5 - 36 cm: Gray/Green clay/gravel
36 - 106.5 cm: Clay/Green fine clay/mud sandy

Sample Interval:

A - 3 cm
B - 9 cm
C - 15 cm
D - 21 cm
E - 24 cm
F - 30 cm
G - 42 cm
H - 45 cm
I - 54 cm
J - 60 cm
K - 72 cm
L - 91 cm

NOTES:

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B - A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0-5 cm mix of soft brown and brown clay</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>5-10 cm brown + black</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>11-34 brown - nearly uniform</td>
</tr>
<tr>
<td></td>
<td></td>
<td>at 34 cm: thin very light brown horizon</td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>brown 34 cm grey clay + brown</td>
</tr>
<tr>
<td></td>
<td></td>
<td>with Hudson sand, 45-55</td>
</tr>
<tr>
<td>60</td>
<td></td>
<td>Below 34 cm mix: A 0-18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C 18-25</td>
</tr>
<tr>
<td>75</td>
<td></td>
<td>D 25-29.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E 29.5-35</td>
</tr>
<tr>
<td>90</td>
<td></td>
<td>F 35-41</td>
</tr>
<tr>
<td></td>
<td></td>
<td>G 41-47</td>
</tr>
<tr>
<td>105</td>
<td></td>
<td>H 47-53</td>
</tr>
<tr>
<td>120</td>
<td></td>
<td>Valley sands</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0-10 - 0.02</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10-12 - 0.03</td>
</tr>
<tr>
<td>135</td>
<td></td>
<td>12-18 - 0.07</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18-23 - 0.09</td>
</tr>
<tr>
<td></td>
<td></td>
<td>23-28.5 - 0.12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>28.5-35 - 0.12</td>
</tr>
<tr>
<td>150</td>
<td></td>
<td>35-41 - 0.13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>41-47 - 0.13</td>
</tr>
<tr>
<td>165</td>
<td></td>
<td>47-53 - 0.14</td>
</tr>
<tr>
<td>180</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTES:

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D).
<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td></td>
<td>9.5 cm Fairly Wet Clay, Some Risen Silt Blobs</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>At Surface</td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>0-6 0.07</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6-12 0.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12-18 0.12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18-24 0.15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24-30 0.15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30-36 0.16</td>
</tr>
</tbody>
</table>

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B - A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
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<thead>
<tr>
<th>Depth (cm)</th>
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<tbody>
<tr>
<td>15</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td></td>
</tr>
<tr>
<td>90</td>
<td></td>
</tr>
<tr>
<td>105</td>
<td></td>
</tr>
<tr>
<td>120</td>
<td></td>
</tr>
<tr>
<td>135</td>
<td></td>
</tr>
<tr>
<td>150</td>
<td></td>
</tr>
<tr>
<td>180</td>
<td></td>
</tr>
</tbody>
</table>

**DESCRIPTION**

- Unidentified soft silt with 1 cm Band Clay Class
- Some soft gravel - thin very soft silt
- Rising up 1 cm
- Faint Horizon 12-15 cm
- Light brown horizon at 29 cm (3/4 cm thick)
- May be mixed material content
- Faint horizon 30-50 cm
- Thin black band at 53 cm
- Layer of particles 5-6 cm (see photograph)
- Faint Horizon 59 cm
- Uniform Gray Horizon to SOC at 146.5 cm

**NOTES:**

- 1 cm horizon mix of very loose, black clay and silt
- Lamination
- Seems to experience some methylation event

**Unpenetrated Barrel/Cable Length (A):** Actual Penetration (C) = B - A

**Penetrated Barrel/Cable Length (B):** Recovered Core Length (D):
<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>20-1-B</td>
<td>Cont #</td>
</tr>
<tr>
<td>30</td>
<td>20-1-A</td>
<td>5.82 g</td>
</tr>
<tr>
<td>45</td>
<td>20-1-C</td>
<td>6.57 g</td>
</tr>
<tr>
<td>60</td>
<td>20-1-E</td>
<td>7.92 g</td>
</tr>
<tr>
<td>75</td>
<td>20-1-D</td>
<td>8.36 g</td>
</tr>
<tr>
<td>90</td>
<td>20-1-F</td>
<td>6.52 g</td>
</tr>
<tr>
<td>105</td>
<td>20-1-G</td>
<td>8.83 g</td>
</tr>
<tr>
<td>120</td>
<td>20-1-H</td>
<td>6.27 g</td>
</tr>
</tbody>
</table>

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B - A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>37 x 37 x 1 cm piece of Georgia granite sitting at site</td>
<td></td>
</tr>
<tr>
<td></td>
<td>46-47 of 46-47, seams</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Also seams, fractures, fractures</td>
<td></td>
</tr>
<tr>
<td></td>
<td>40-41 of 40-41, fractures</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>Indicated layer of sandstone with soft layer of thin oxidized sandstone at surface</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Layered, indistinguishable, lacks clay structures</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>Arrived again - matrix to 6 cm</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>Uneven gray color matrix</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7-8 cm</td>
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</tr>
<tr>
<td>90</td>
<td>Pinkish clay 21-23 cm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6-7 cm</td>
<td></td>
</tr>
<tr>
<td>105</td>
<td>6-7 cm</td>
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</tr>
<tr>
<td>120</td>
<td>6-7 cm</td>
<td></td>
</tr>
<tr>
<td>135</td>
<td>6-7 cm</td>
<td></td>
</tr>
<tr>
<td>150</td>
<td>6-7 cm</td>
<td></td>
</tr>
<tr>
<td>165</td>
<td>6-7 cm</td>
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</tr>
<tr>
<td>180</td>
<td>6-7 cm</td>
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**NOTES:**

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>Sketch</th>
<th>Description</th>
<th>CAN #</th>
<th>CAN+ WET</th>
<th>CAN+ DRY</th>
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<td>21-1-F</td>
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<td>21-1-E</td>
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<td>7.13</td>
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<td>21-1-H</td>
<td>7.97</td>
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<td>21-1-G</td>
<td>8.03</td>
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<td></td>
<td></td>
<td>21-1-C</td>
<td>5.71</td>
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<td>90</td>
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<td>21-1-B</td>
<td>5.38</td>
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<td>105</td>
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<td>21-1-A</td>
<td>7.35</td>
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<td>120</td>
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<td>150</td>
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<tr>
<td>180</td>
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</tbody>
</table>

NOTES:

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B - A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
### DESCRIPTION

- **Depth (cm):**
  - 15
  - 30
  - 45
  - 60
  - 75
  - 90
  - 105
  - 120
  - 135
  - 150
  - 165
  - 180

- **Sketch:**
  - Large 3.5 cm core clast at surface
  - Very fine/thin layer of vitrinite
  - 4 cm. Brown at surface
  - 4-12 cm - 0.06
  - 4 cm. Brown at surface
  - 4-12 cm - 0.06
  - 3 cm. Layer of vitrinite (thick) eroded 12-18 cm. 0.14
  - *sediment below
  - 4 cm. Black at surface
  - 4-12 cm - 0.06
  - 3 cm. Black at surface
  - 4-12 cm - 0.06
  - 80-80 cm - 0.06
  - 80-80 cm - 0.06
  - 80-80 cm - 0.06
  - 80-80 cm - 0.06

- **Notes:**
  - Density collected at A.C.E.
  - Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A
  - Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
### Core ID: 22-1

#### General Information:
- **Client:** U.S. ACE
- **Project Number:** 9000-461
- **GPS Coordinates:** See Logbook
- **Geographic Reference:** Massachusetts Bay
- **Water Depth:**
- **MLW:**
- **Core Size (in.):** 2.75-in OD
- **Weather:** See Logbook
- **Seas:** Logbook
- **Survey Vessel:** Shanna Rose
- **Survey Personnel:** See Logbook
- **Sampling Equipment:** See Logbook

#### Estimated Penetration Range:
- **Actual Penetration:**

<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>22-1-A</td>
<td>7.29</td>
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<td>30</td>
<td>22-1-B</td>
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<td>45</td>
<td>22-1-C</td>
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<td>60</td>
<td>22-1-D</td>
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<td>75</td>
<td>22-1-E</td>
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<td>90</td>
<td>22-1-F</td>
<td>6.78</td>
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<tr>
<td>105</td>
<td>22-1-G</td>
<td>7.45</td>
</tr>
<tr>
<td>120</td>
<td></td>
<td></td>
</tr>
<tr>
<td>135</td>
<td></td>
<td></td>
</tr>
<tr>
<td>150</td>
<td></td>
<td></td>
</tr>
<tr>
<td>165</td>
<td></td>
<td></td>
</tr>
<tr>
<td>180</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Notes:
- Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A
- Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
**Sketch**

- **Top of Clay**

**Description**

- 10 cm clay change at surface - continues turn-over mixing to curve "amber" etc.
- Deep crevices immediately under clay
- General low moisture clay color
- New uniform color at depth
- Contacts along 30 cm (20 cm from interface)
- Nodules clay at about 27 cm with
  - few particles of sand
- very light mottling in clay plug
- material - 45 - 60 cm
- light faint band at 7.5 to 9.5 cm
- Uniform clay gradient 0 to 90 at 13.5 cm

**Notes:**
- Density collected @ A, C, E

**Unpenetrated Barrel/Cable Length (A):** Actual Penetration (C) = B - A
- Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>23-1-H</td>
<td>9.24</td>
</tr>
<tr>
<td>30</td>
<td>23-1-G</td>
<td>9.32</td>
</tr>
<tr>
<td>45</td>
<td>23-1-F</td>
<td>8.28</td>
</tr>
<tr>
<td>60</td>
<td>23-1-C</td>
<td>8.18</td>
</tr>
<tr>
<td>75</td>
<td>23-1-D</td>
<td>6.85</td>
</tr>
<tr>
<td>90</td>
<td>23-1-A</td>
<td>7.82</td>
</tr>
<tr>
<td>105</td>
<td>23-1-B</td>
<td>8.45</td>
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NOTES:

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td></td>
<td>13 cm CLAY of Boston Blue Clay sitting on Eroded / Reformed Surfac</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>3 cm of SLIGHTY REVEAL NUMBER AT INTERFACE</td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>COMPETENT FROM INTERFACE TO GSC 12-18 0.25</td>
</tr>
<tr>
<td>60</td>
<td></td>
<td>6-12 0.17</td>
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<tr>
<td>75</td>
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<td>8-24 0.23</td>
</tr>
<tr>
<td>90</td>
<td></td>
<td>14-30 0.25</td>
</tr>
<tr>
<td>105</td>
<td></td>
<td></td>
</tr>
<tr>
<td>120</td>
<td></td>
<td></td>
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<tr>
<td>135</td>
<td></td>
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<tr>
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<tr>
<td>165</td>
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<tr>
<td>180</td>
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</table>

NOTES:

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
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</thead>
<tbody>
<tr>
<td>15</td>
<td></td>
<td>Clay/Peat 1</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>Clay/Peat 2</td>
</tr>
<tr>
<td>15-18</td>
<td></td>
<td>Unit 15-18</td>
</tr>
<tr>
<td>18-24</td>
<td></td>
<td>18-24 cm</td>
</tr>
<tr>
<td>24-31</td>
<td></td>
<td>24-31 cm</td>
</tr>
<tr>
<td>EOC</td>
<td></td>
<td>Recovered</td>
</tr>
</tbody>
</table>

**NOTES:**
- Unpenetrated Barrel/Cable Length (A): 127 cm
- Actual Penetration (C) = B-A
- Penetrated Barrel/Cable Length (B): 127 cm
- Recovered Core Length (D): 127 cm
Clay Clays

Brown Silt

Brown Silt

Erosional Surface

Mottled
<table>
<thead>
<tr>
<th>Depth (cm)</th>
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<th>DESCRIPTION</th>
<th>UNLESSING</th>
<th>Vane Shear</th>
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<tbody>
<tr>
<td>15</td>
<td>25-1-1 TRANSLATION 1</td>
<td>Full set</td>
<td>0-3</td>
<td>0.25</td>
</tr>
<tr>
<td>30</td>
<td>25-1-2 TRANSLATION 2</td>
<td>Full set</td>
<td>0-3</td>
<td>0.15</td>
</tr>
<tr>
<td>45</td>
<td>25-1-A</td>
<td>Full set</td>
<td>0-3</td>
<td>0.48</td>
</tr>
<tr>
<td>60</td>
<td>25-1-B</td>
<td>Full set</td>
<td>0-3</td>
<td>0.24</td>
</tr>
<tr>
<td>75</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td></td>
<td></td>
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<tr>
<td>105</td>
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<td>120</td>
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<tr>
<td>150</td>
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<tr>
<td>165</td>
<td></td>
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<tr>
<td>180</td>
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NOTES:

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
<table>
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<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
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<tr>
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<td>5.48</td>
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<td>30</td>
<td>85-1 - F</td>
<td>7.10</td>
</tr>
<tr>
<td>45</td>
<td>85-1 - E</td>
<td>7.34</td>
</tr>
<tr>
<td>60</td>
<td>85-1 - H</td>
<td>7.81</td>
</tr>
<tr>
<td>75</td>
<td>85-1 - G</td>
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<td>85-1 - D</td>
<td>7.42</td>
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<td>105</td>
<td>85-1 - T1</td>
<td>6.81</td>
</tr>
<tr>
<td>120</td>
<td>85-1 - A</td>
<td>5.15</td>
</tr>
<tr>
<td>135</td>
<td>85-1 - B</td>
<td>5.33</td>
</tr>
<tr>
<td>150</td>
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<tr>
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<td>180</td>
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**Notes:**

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B - A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
<table>
<thead>
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<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>15</td>
<td></td>
<td>SMALL CLAY BAND AT SURFACE WITH UNEVEN CUTTER CLAY</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>WET SAND TO 30 CM AS SHOWN</td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>LOOK AT 45 CM MARK ON TILE</td>
</tr>
<tr>
<td>60</td>
<td></td>
<td>LOOK AT 60 CM MARK (BOWLING)</td>
</tr>
<tr>
<td>75</td>
<td></td>
<td>UNIFORM GRAVEL/CEMENT BELOW TO 55 CM AT 120 CM</td>
</tr>
<tr>
<td>90</td>
<td></td>
<td>55 CM MARKED AT 83 CM</td>
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<tr>
<td>105</td>
<td></td>
<td>INTERMITTENT SHELL FOSSILITY 55 CM</td>
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<tr>
<td>120</td>
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<td>25 CM</td>
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<tr>
<td>135</td>
<td></td>
<td>0-15: 0.11</td>
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<tr>
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<td>15-20: 0.13</td>
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<tr>
<td>150</td>
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<td>20-24: 0.16</td>
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<td>165</td>
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<td>24-30: 0.18</td>
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<td>180</td>
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<td>30-36: 0.16</td>
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NOTES:

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
<table>
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<td>B6-1 - F</td>
<td>6.59</td>
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<td>B6-1 - A</td>
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<td>B6-1 - A</td>
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<td>B6-1 - D</td>
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<td>105</td>
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<td>6.94</td>
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<td>B6-1 - C</td>
<td>7.23</td>
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NOTES:
- Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A
- Penetrated Barrel/Cable Length (B): Recovered Core Length (D)
<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td></td>
<td>Blue clay clay 0-4, 0-7</td>
</tr>
<tr>
<td>15-20</td>
<td></td>
<td>Mottled brown silt, 7-19 cm</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>19-21 green silt</td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>21-24 mottled dark brown silt layer</td>
</tr>
<tr>
<td>45-60</td>
<td></td>
<td>Mottled green silt</td>
</tr>
<tr>
<td>60</td>
<td></td>
<td>46 reduced horizon, 20 cm</td>
</tr>
<tr>
<td>75</td>
<td></td>
<td>Uniform green silt</td>
</tr>
<tr>
<td>90</td>
<td></td>
<td>Uniform green silt, top of red clay layer at 75 cm</td>
</tr>
<tr>
<td>105</td>
<td></td>
<td>Uniform green silt, top of red clay layer at 75 cm</td>
</tr>
<tr>
<td>120</td>
<td></td>
<td>Uniform green silt, top of red clay layer at 75 cm</td>
</tr>
<tr>
<td>135</td>
<td></td>
<td>Uniform green silt, top of red clay layer at 75 cm</td>
</tr>
<tr>
<td>150</td>
<td></td>
<td>Uniform green silt, top of red clay layer at 75 cm</td>
</tr>
<tr>
<td>165</td>
<td></td>
<td>Uniform green silt, top of red clay layer at 75 cm</td>
</tr>
<tr>
<td>180</td>
<td></td>
<td>Uniform green silt, top of red clay layer at 75 cm</td>
</tr>
</tbody>
</table>

**NOTES:**

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
Single crater on flanks

**Depth (cm)** | **Sketch** | **Description** | **Notes**
---|---|---|---
15 | | Washed surface, no soft brown layer |  
30 | | Thin black line at 1 cm |  
45 | | Thin black line at 5 cm | First motting  
60 | | No motting – grey green silt to bottom  
90 | | below 20 | C.D.C. at 147 cm
105 | |  
120 | | Average  
135 | | U.M.S.T.E.R.  
0-10 = 0.7  
0-12 = 0.10  
3-18 = 0.12  
15-21 = 0.14  
24-30 = 0.14  
28-36 = 0.15 |  
150 | |  
165 | |  
180 | |  

**Unpenetrated Barrel/Cable Length (A):** Actual Penetration (C) = B-A  
**Penetrated Barrel/Cable Length (B):** Recovered Core Length (D):
<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>Sketch</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td></td>
<td>Small clay elastic, intermixed at surface.</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>Medium hard, sandy clay.</td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>2-4 mm particles, 50% organic.</td>
</tr>
<tr>
<td>60</td>
<td></td>
<td>2-10 mm organics. Zone V.</td>
</tr>
<tr>
<td>75</td>
<td></td>
<td>10 cm dense, hard. Zone V.</td>
</tr>
<tr>
<td>90</td>
<td></td>
<td>Fine grained.</td>
</tr>
<tr>
<td>105</td>
<td></td>
<td>73-34 cm massive, very dense clay.</td>
</tr>
<tr>
<td>120</td>
<td></td>
<td>Uneven below 50 cm.</td>
</tr>
<tr>
<td>135</td>
<td></td>
<td>Depth 135 cm.</td>
</tr>
<tr>
<td>150</td>
<td></td>
<td>Depth 150 cm.</td>
</tr>
<tr>
<td>165</td>
<td></td>
<td>Depth 165 cm.</td>
</tr>
<tr>
<td>180</td>
<td></td>
<td>Depth 180 cm.</td>
</tr>
</tbody>
</table>

**Notes:**

Unpenetrated Barrel/Cable Length (A) = Actual Penetration (C) - B - A
Penetrated Barrel/Cable Length (B) = Recovered Core Length (D)
<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td></td>
<td>CAL #1</td>
</tr>
<tr>
<td>30</td>
<td>29-1-7</td>
<td>7.92</td>
</tr>
<tr>
<td>45</td>
<td>29-1-H</td>
<td>9.93</td>
</tr>
<tr>
<td>60</td>
<td>29-1-E</td>
<td>7.15</td>
</tr>
<tr>
<td>75</td>
<td>29-1-F</td>
<td>8.46</td>
</tr>
<tr>
<td>90</td>
<td>29-1-D</td>
<td>7.10</td>
</tr>
<tr>
<td>105</td>
<td>29-1-A</td>
<td>6.52</td>
</tr>
<tr>
<td>120</td>
<td>29-1-C</td>
<td>6.30</td>
</tr>
<tr>
<td>135</td>
<td></td>
<td></td>
</tr>
<tr>
<td>150</td>
<td></td>
<td></td>
</tr>
<tr>
<td>165</td>
<td></td>
<td></td>
</tr>
<tr>
<td>180</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**

- Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A
- Penetrated Barrel/Cable Length (B): Recovered Core Length (D)
<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td></td>
<td>WASHEd SURFACE, NO SIGN OF REACTION COLORATION</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>10 cm OF UN EVEN UPPER LAYER</td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>COMPETENT FROM SURFACE TO EOC</td>
</tr>
<tr>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>105</td>
<td></td>
<td></td>
</tr>
<tr>
<td>120</td>
<td></td>
<td></td>
</tr>
<tr>
<td>135</td>
<td></td>
<td></td>
</tr>
<tr>
<td>150</td>
<td></td>
<td></td>
</tr>
<tr>
<td>165</td>
<td></td>
<td></td>
</tr>
<tr>
<td>180</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td></td>
<td>15 cm mixed, mostly clay clast on uneven erosional surface</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>Slightly reduced?</td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>Constant from interface to 60</td>
</tr>
<tr>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>105</td>
<td></td>
<td></td>
</tr>
<tr>
<td>120</td>
<td></td>
<td></td>
</tr>
<tr>
<td>135</td>
<td></td>
<td></td>
</tr>
<tr>
<td>150</td>
<td></td>
<td></td>
</tr>
<tr>
<td>165</td>
<td></td>
<td></td>
</tr>
<tr>
<td>180</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTES:

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td></td>
<td>f. consol testing</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>9-45 Faint mottling brown to dark brown throughout core. Most noticeable 9-45</td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>96-61 - artifact from wire on surface</td>
</tr>
<tr>
<td>60</td>
<td></td>
<td>62-100 - faint mottling</td>
</tr>
<tr>
<td>75</td>
<td></td>
<td>100-151 traces of mottling</td>
</tr>
<tr>
<td>90</td>
<td></td>
<td>115-121 traces of mottling</td>
</tr>
<tr>
<td>105</td>
<td></td>
<td>121-124 traces of mottling</td>
</tr>
<tr>
<td>120</td>
<td></td>
<td>124-129 traces of mottling</td>
</tr>
<tr>
<td>135</td>
<td></td>
<td>139-141 faint mottling</td>
</tr>
<tr>
<td>150</td>
<td></td>
<td>141-147 faint mottling</td>
</tr>
<tr>
<td>165</td>
<td></td>
<td>147-153 faint mottling</td>
</tr>
<tr>
<td>180</td>
<td></td>
<td>153-154 faint mottling</td>
</tr>
</tbody>
</table>

NOTES:

- Unpenetrated Barrel/Cable Length (A):
- Actual Penetration (C) = B-A
- Penetrated Barrel/Cable Length (B):
- Recovered Core Length (D):
<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td></td>
<td>Top 30 cm for consolidation</td>
</tr>
<tr>
<td>30</td>
<td>Uniform grey/green, mud-organic</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>A = 30-34.5, B = 34.5-39.5</td>
</tr>
<tr>
<td>60</td>
<td></td>
<td>B = 39.5-42</td>
</tr>
<tr>
<td>75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>105</td>
<td></td>
<td></td>
</tr>
<tr>
<td>120</td>
<td></td>
<td></td>
</tr>
<tr>
<td>135</td>
<td></td>
<td></td>
</tr>
<tr>
<td>150</td>
<td></td>
<td></td>
</tr>
<tr>
<td>165</td>
<td></td>
<td></td>
</tr>
<tr>
<td>180</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**

- Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A
- Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td></td>
<td>Blue clay clay, thin lenses, weathered around a rounded quartz, fine to very fine sand, percolated.</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>Coarse brown, dark gray silt, (Silt-clay)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rock base, slip of sill, material is very thin to very fine silt. Bolted together</td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>Round impaction to gray/green silt, 10-15 cm.</td>
</tr>
<tr>
<td>60</td>
<td></td>
<td>The clay or mottoy silt (cm) material with sand.</td>
</tr>
<tr>
<td>75</td>
<td></td>
<td>Light brown clay, bottom of class at 72 cm.</td>
</tr>
<tr>
<td>90</td>
<td></td>
<td>22-29.5 cm gray/gray silt. Very light gray, carbon, surrounded. (29.5 cm, 29.5 cm).</td>
</tr>
<tr>
<td>105</td>
<td></td>
<td>29.5 cm gray, very fine silt. Slight ash, brown silt, grey ash.</td>
</tr>
<tr>
<td>120</td>
<td></td>
<td>Another light fragment material at 48 cm</td>
</tr>
<tr>
<td>135</td>
<td></td>
<td>Burrowed animal 8 cm</td>
</tr>
<tr>
<td>150</td>
<td></td>
<td>Burrowed animal 8 cm</td>
</tr>
<tr>
<td>165</td>
<td></td>
<td>Burrowed animal 8 cm</td>
</tr>
<tr>
<td>180</td>
<td></td>
<td>Burrowed animal 8 cm</td>
</tr>
</tbody>
</table>

NOTES:

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B - A
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<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td></td>
<td><em>Un轻轻地打捞到表面 70 3cm</em></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>红褐色至浅棕色材料，特征指示器接近深度20cm至40cm</td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>红褐色至浅棕色材料，特征指示器接近深度20cm至40cm</td>
</tr>
<tr>
<td>60</td>
<td></td>
<td>红褐色至浅棕色材料，特征指示器接近深度20cm至40cm</td>
</tr>
<tr>
<td>75</td>
<td></td>
<td>红褐色至浅棕色材料，特征指示器接近深度20cm至40cm</td>
</tr>
<tr>
<td>90</td>
<td></td>
<td>红褐色至浅棕色材料，特征指示器接近深度20cm至40cm</td>
</tr>
<tr>
<td>105</td>
<td></td>
<td>红褐色至浅棕色材料，特征指示器接近深度20cm至40cm</td>
</tr>
<tr>
<td>120</td>
<td></td>
<td>红褐色至浅棕色材料，特征指示器接近深度20cm至40cm</td>
</tr>
<tr>
<td>135</td>
<td></td>
<td>红褐色至浅棕色材料，特征指示器接近深度20cm至40cm</td>
</tr>
<tr>
<td>150</td>
<td></td>
<td>红褐色至浅棕色材料，特征指示器接近深度20cm至40cm</td>
</tr>
<tr>
<td>165</td>
<td></td>
<td>红褐色至浅棕色材料，特征指示器接近深度20cm至40cm</td>
</tr>
<tr>
<td>180</td>
<td></td>
<td>红褐色至浅棕色材料，特征指示器接近深度20cm至40cm</td>
</tr>
</tbody>
</table>

**NOTES:**

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>105</td>
<td></td>
<td></td>
</tr>
<tr>
<td>120</td>
<td></td>
<td></td>
</tr>
<tr>
<td>135</td>
<td></td>
<td></td>
</tr>
<tr>
<td>150</td>
<td></td>
<td></td>
</tr>
<tr>
<td>165</td>
<td></td>
<td></td>
</tr>
<tr>
<td>180</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### NOTES:

- Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B - A
- Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
Client: U.S. ACE
Project Number: 9000-461
Station Number:
GPS Coordinates: See Logbook
Geographic Reference: Massachusetts Bay
Water Depth: MLW:
Weather: See Logbook
Seas: Logbook
Survey Vessel: Shanna Rose
Logged By:
Date:
Survey Personnel: See Logbook
Sampling Equipment: See Logbook
Estimated Penetration Range:
Actual Penetration:
Project Depth:
Recovery:
% Recovery:
No. Attempts:
Core ID: 3-20-37-1
Sheet: 1 of 2
Core Size (in.): 2.75-in OD
Time (Water Depth):
Time (Coring):

<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>SKETCH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td></td>
<td>FRESH/NEW</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WASHED</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SURFACE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CLAY CLASTS (2 oz more)</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>LARGES CLAY IMMEDIATELY</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CLAY</td>
</tr>
</tbody>
</table>

NOTES:

Unpenetrated Barrel/Cable Length (A): Actual Penetration (C) = B-A
Penetrated Barrel/Cable Length (B): Recovered Core Length (D):
Appendix D

Comprehensive Sediment Core Plots
<table>
<thead>
<tr>
<th>Shear (kg/cm²) (× 0.1)</th>
<th>Lead (dpm/g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.5</td>
<td>1.0</td>
</tr>
<tr>
<td>5.0</td>
<td>2.0</td>
</tr>
<tr>
<td>2.5</td>
<td>3.0</td>
</tr>
<tr>
<td>0.0</td>
<td>4.0</td>
</tr>
</tbody>
</table>
Appendix E

Grain Size Data
Grain-Size Analysis Report

Sample: 01-4-B - Average
Source: DAMOS
Cruise: DAMOS

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Dispersant RI:</th>
<th>Absorption:</th>
<th>Inclusive SD (Sorting Coeff.)</th>
<th>Kurtosis</th>
<th>Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>D[4,3] = 31.06um = 5.01phi</td>
<td></td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>1.9 phi (Poorly Sorted)</td>
<td>103.38</td>
<td>9.63</td>
</tr>
<tr>
<td>D[v,0.05] = 1um = 9.97phi</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D[v,0.16] = 2.32um = 8.75phi</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Clay (0-2 um) = 13.7</td>
<td>% Silt (3.91-31 um) = 54.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Fine Silt (2-3.9 um) = 11.39</td>
<td>% Coarse Silt (31 - 62.5 um) = 15.88</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Very Fine sand (62.5 - 125 um) = 3.58</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Inclusive Skewness = -0.19 (Coarse Skewed)
Inclusive Mean = 6.64 phi (Silt)

USGS

<table>
<thead>
<tr>
<th>Size Hi</th>
<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>phi</td>
<td>um</td>
<td>phi</td>
<td>um</td>
</tr>
<tr>
<td>8.0</td>
<td>3.90</td>
<td>8.5</td>
<td>2.76</td>
</tr>
<tr>
<td>9.0</td>
<td>1.95</td>
<td>9.5</td>
<td>1.95</td>
</tr>
<tr>
<td>10.0</td>
<td>0.98</td>
<td>10.5</td>
<td>0.69</td>
</tr>
<tr>
<td>11.0</td>
<td>0.49</td>
<td>11.5</td>
<td>0.35</td>
</tr>
<tr>
<td>12.0</td>
<td>0.24</td>
<td>12.5</td>
<td>0.17</td>
</tr>
<tr>
<td>13.0</td>
<td>0.17</td>
<td>13.5</td>
<td>0.06</td>
</tr>
<tr>
<td>14.0</td>
<td>0.06</td>
<td>14.5</td>
<td>0.043</td>
</tr>
<tr>
<td>15.0</td>
<td>0.030</td>
<td>15.5</td>
<td>0.020</td>
</tr>
</tbody>
</table>

Notes:

- Inclusive Kurtosis = 0.87 phi (Platykurtic)
- Inclusive Mean = 6.64 phi (Silt)
- Inclusive SD (Sorting Coeff.) = 1.9 phi (Poorly Sorted)

Notes:

- Obscuration : 11.16
- Kurtosis = 103.38
- Skewness = 9.63
- Inclusive Kurtosis = 0.87 phi (Platykurtic)
- Inclusive Mean = 6.64 phi (Silt)
- Inclusive SD (Sorting Coeff.) = 1.9 phi (Poorly Sorted)

Record Number: 276
Grain-Size Analysis Report

Sample: 01-4-C - Average
Source: USGS
Cruise: DAMOS

Particle Name: Fraunhofer Dispersant Name: Water
Particle RI: 0.000 Dispersant RI: 1.330
Absorption: 0

D[4,3] = 29.06um = 5.1phi
D[v,0.5] = 15.13um = 6.05phi
D[v,0.05] = 1.05um = 8.89phi
D[v,0.16] = 2.62um = 8.56phi

% Clay (0-2 um) = 12.25
% Silt (3.91-31 um) = 51.15
% Very Fine sand (62.5 - 125 um) = 20.28
% Very Fine sand (12.5 - 62.5 um) = 5.33
% Coarse Silt (31 - 62.5 um) = 20.28
% Clay (0-3.9 um) = 22.15

Inclusive SD (Sorting Coeff.) = 1.92 phi (Poorly Sorted)
Kurtosis = 108.76
Skewness = -0.27 (Coarse Skewed)
Inclusive Mean = 6.39 phi (Silt)

USGS
% Clay (0-2 um) = 12.25
% Fine Silt (2-3.9 um) = 9.91
% Silt (3.91-31 um) = 51.15
% Coarse Silt (31 - 62.5 um) = 20.28
% Very Coarse sand (1000 - 2000 um) = 0.19
% Medium sand (250-500 um) = .2
% Fine sand (125-250 um) = .01
% Coarse sand (500-1000 um) = .69

Inclusive Mean = 6.39 phi (Silt)
Inclusive Kurtosis = .88 phi (Platykurtic)

Notes:

---

01-4-C - Average, Thursday, August 06, 2009 9:54:19 AM

---

Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
Record Number: 280

File name: DAMOS.mea
**Grain-Size Analysis Report**

**Sample:** 01-4-D - Average  
**Source:**  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Julie  
**Measured:** Thursday, August 06, 2009 9:58:59 AM

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Absorption:</th>
<th>Inclusive Kurtosis</th>
<th>Inclusive Mean</th>
<th>Inclusive SD Coeff.</th>
<th>Inclusive Skewness</th>
</tr>
</thead>
</table>
| Coarse Silt (31 - 62.5 um) | 20.29  
| Medium Sand (250-500 um) | .01  
| Fine Sand (125-250 um) | .01  
| Very Coarse Sand (1000 - 2000 um) | .25  
| Very Fine Sand (62.5 - 125 um) | 5.31  
| Fine Silt (2-3.9 um) | 9.88  
| Silt (3.91-31 um) | 51.1  
| Clay (0-2 um) | 12.32  
| Clay (0-3.9 um) | 22.2  
| USGS |  

**Notes:**

- **D[4,3] = 29.72um = 5.07phi**  
- **D[v,0.5] = 15.16um = 6.04phi**  
- **Kurtosis = 103.69**  
- **Inclusive Mean = 6.39 phi (Silt)**  
- **Inclusive SD Coeff. = 1.92 phi (Poorly Sorted)**  
- **Inclusive Skewness = -0.27 (Coarse Skewed)**  
- **Inclusive Mean = 5.86 phi (Silt)**  

**Dispersant RI:** Fraunhofer  
**Dispersant Name:** Water  
**Particle RI:** 0.00  
**Source:** USGS  
**D[4,3] = 29.72um = 5.07phi**  
**D[v,0.5] = 15.16um = 6.04phi**  
**Kurtosis = 103.69**  
**Inclusive Mean = 6.39 phi (Silt)**  
**Inclusive SD Coeff. = 1.92 phi (Poorly Sorted)**  
**Inclusive Skewness = -0.27 (Coarse Skewed)**  
**Inclusive Mean = 5.86 phi (Silt)**  

**Notes:**

- **D[4,3] = 29.72um = 5.07phi**  
- **D[v,0.5] = 15.16um = 6.04phi**  
- **Kurtosis = 103.69**  
- **Inclusive Mean = 6.39 phi (Silt)**  
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**Notes:**

- **D[4,3] = 29.72um = 5.07phi**  
- **D[v,0.5] = 15.16um = 6.04phi**  
- **Kurtosis = 103.69**  
- **Inclusive Mean = 6.39 phi (Silt)**  
- **Inclusive SD Coeff. = 1.92 phi (Poorly Sorted)**  
- **Inclusive Skewness = -0.27 (Coarse Skewed)**  
- **Inclusive Mean = 5.86 phi (Silt)**  

**Notes:**
**Grain-Size Analysis Report**

**Sample**: 01-5-A - Average  
**Source**: DAMOS  
**Cruise**: Julie  
**Measured**: Thursday, August 06, 2009 11:53:32 AM

<table>
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<th>Dispersant RI:</th>
<th>Absorption:</th>
<th>Inclusive Kurtosis</th>
<th>Inclusive Mean</th>
<th>Inclusive SD (Sorting Coeff.)</th>
<th>Kurtosis</th>
<th>Skewness</th>
<th>Coarse Skewed</th>
<th>Median</th>
<th>Skewed</th>
<th>Clay (0-2 um)</th>
<th>Silt (3.91-31 um)</th>
<th>Medium Sand (125-250 um)</th>
<th>Clay (0-3.9 um)</th>
<th>Fine Sand (125-250 um)</th>
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<td>13.77um = 6.24phi</td>
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<td>6.5 phi (Silt)</td>
<td>6.5 phi (Silt)</td>
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<td>39.5um = 4.66phi</td>
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<td>1.9 phi (Poorly Sorted)</td>
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<td>6.5 phi (Silt)</td>
<td>1.9 phi (Poorly Sorted)</td>
<td>100 phi</td>
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<td>4.28</td>
<td>39.5um = 4.66phi</td>
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<td>Coarse Silt (31 - 62.5 um) = 16.99 um</td>
<td>13.27um = 6.24phi</td>
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<td>6.5 phi (Silt)</td>
<td>6.5 phi (Silt)</td>
<td>1.9 phi (Poorly Sorted)</td>
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<td>4.28</td>
<td>39.5um = 4.66phi</td>
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<td>6.5 phi (Silt)</td>
<td>1.9 phi (Poorly Sorted)</td>
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<td>39.5um = 4.66phi</td>
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</tr>
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</table>

**Notes:**

- **Obscuration:** 13.75
- **Skewness:** 9.09
- **Kurtosis:** 100.82
- **Standard Deviation:** 57.54 um = 4.12phi

**Inclusive SD (Sorting Coeff.) = 1.9 phi (Poorly Sorted)  
Inclusive Skewness = -0.21 (Coarse Skewed)  
Inclusive Mean = 6.5 phi (Silt)**

---

**Malvern, UK**  
**Mastersizer 2000 Ver. 5.22**  
**Serial Number:** MAL101534  
**Record Number:** 344

---

**01-5-A - Average, Thursday, August 06, 2009 11:53:32 AM**
Grain-Size Analysis Report

Sample: 01-5-B - Average
Source: DAMOS
Cruise: DAMOS

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<thead>
<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
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<tbody>
<tr>
<td>Fraunhofer</td>
<td>Water</td>
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<table>
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<tr>
<th>Particle Rl:</th>
<th>Absorption:</th>
<th>Obscuration:</th>
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</thead>
<tbody>
<tr>
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<td>0</td>
<td>15.24</td>
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</tbody>
</table>

D(0.1) : 1.680 um = 5.85 phi
D(0.5) : 13.27um = 6.24phi
D(0.95) : 25.00um = 8.59phi

Kurtosis = 109.46
Skewness = 9.71
Inclusive Kurtosis = .92 phi (Mesokurtic)
Inclusive Skewness = -0.2 (Coarse Skewed)
Inclusive Mean = 6.5 phi (Silt)

USGS
% Clay (0-2 um) = 12.27
% fine Silt (2-3.9 um) = 10.48

Wentworth
% Clay (0.39-3 um) = 22.76
% Silt (3.91-31 um) = 54.37
% Coarse Silt (31 - 62.5 um) = 16.41
% Very Fine sand (62.5 - 125 um) = 4.24
% Coarse sand (125-250 um) = 0.63
% Medium sand (250-500 um) = 0.45
% Coarse sand (500-1000 um) = 0.72
% Very Coarse sand (1000 - 2000 um) = 0.42

Notes:

---

File name: DAMOS.mea
Serial Number : MAL101534
Record Number: 348

Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22

Thursday, August 06, 2009 11:58:27 AM
## Grain-Size Analysis Report

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<tr>
<th>Sample:</th>
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<tr>
<td>Cruise:</td>
<td>DAMOS</td>
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</tbody>
</table>

### Particle Name: Fraunhofer

<table>
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<th>Dispersant Name: Water</th>
<th>Particle Size Distribution</th>
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### Particle RI: 0.000

<table>
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<tr>
<th>Dispersant RI: 1.330</th>
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</thead>
</table>

### Inclusive SD (Sorting Coeff.) = 1.88 phi (Poorly Sorted)

#### Wentworth

- % Clay (0-2 um) = 11.88
- % Fine Silt (2-3.9 um) = 10.25
- % Silt (3.91-31 um) = 54.09
- % Coarse Silt (31-62.5 um) = 17.55
- % Very Fine Sand (62.5-125 um) = 5.05
- % Fine Sand (125-250 um) = .33
- % Medium Sand (250-500 um) = .37
- % Coarse Sand (500-1000 um) = .46
- % Very Coarse Sand (1000-2000 um) = .02

### Mean = 6.46 phi (Silt)

#### Size Hi

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<th>% In</th>
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### % Below

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<tr>
<th>Size Hi</th>
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<th>% In</th>
<th>% Below</th>
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<tbody>
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<td>phi</td>
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<td>6.37</td>
<td>(3.90)</td>
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</table>

#### Notes:

- Obscuration: 11.71
- Kurtosis = 127.83
- Skewness = 10.22
- Standard Deviation = 58.55 um = 4.09phi
- Inclusive Skewness = -0.22 (Coarse Skewed)
- Inclusive Kurtosis = .91 phi (Mesokurtic)
- Inclusive Mean = 6.46 phi (Silt)
- Inclusive Sorting Coeff. = 1.88 phi (Poorly Sorted)
- Inclusive Mean = 6.46 phi (Silt)

---

**Malvern Instruments Ltd.**

**Mastersizer 2000 Ver. 5.22**

**Serial Number:** MAL101534

**Record Number:** 352
Grain-Size Analysis Report

Sample: 01-5-D - Average
Source: USGS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water

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<tr>
<th>Particle Size Distribution</th>
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<tbody>
<tr>
<td>Particle Size (µm)</td>
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<td>Volume (%)</td>
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</table>

Inclusive SD (Sorting Coeff.) = 1.87 phi (Poorly Sorted)
Inclusive Kurtosis = .91 phi (Mesokurtic)

% Coarse Silt (31 - 62.5 µm) = 17.37
% Very Fine sand (62.5 - 125 µm) = .28
% Fine silt (2-3.9 um) = 10.29
% Silt (3.91-31 um) = 54.71
% Clay (0-2 um) = 11.96
% Medium sand (250-500 um) = .28
% Fine sand (125-250 um) = .2
% Coarse sand (500-1000 um) = .47
% Very Fine sand (62.5 - 125 um) = 4.67
% Very Coarse sand (1000 - 2000 um) = .05

Inclusive Mean = 6.48 phi (Silt)
Inclusive Skewness = -0.22 (Coarse Skewed)

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 356
### Grain-Size Analysis Report

**Sample:** 01-5-E - Average

**Source:** USGS

**Cruise:** DAMOS

**SOP Name:** DAMOS

**Measured:** Thursday, August 06, 2009 12:12:45 PM

### Particle Name
- **Dispersant Name:** Fraunhofer
- **Dispersant RI:** 0.000
- **Particle RI:** 1.330
- **Absorption:** 0
- **Oscillation:** 12.88

### Inclusive SD (Sorting Coeff.)

- Inclusive Kurtosis = .91 phi (Mesokurtic)
- Inclusive Mean = 6.52 phi (Silt)
- Kurtosis = 127.31
- Skewness = 10.34
- Standard Deviation = 65.81 um = 3.93phi

### Particle Size Distribution

![Graph of Particle Size Distribution](Image)

### Size Hi and Lo

<table>
<thead>
<tr>
<th>Size Hi</th>
<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
</tr>
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### Notes:

- **Dispersant Name:** Water
- **Dispersant RI:** 1.330
- **Obscuration:** 12.88

---

**Malvern Instruments Ltd.**
Malvern, UK

**Mastersizer 2000 Ver. 5.22**
Serial Number: MAL101534
Record Number: 360

**File name:** DAMOS.meo
Grain-Size Analysis Report

Sample: 01-5-H - Average
Source: Damos
Cruise: Damos

<table>
<thead>
<tr>
<th>Particle Name</th>
<th>Particle RI</th>
<th>Dispersant Name</th>
<th>Dispersant RI</th>
<th>Absorption</th>
<th>Obscuration</th>
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<tr>
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<td>Water</td>
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<tr>
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<tr>
<td>Kurtosis = 109.89</td>
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<tr>
<td>Skewness = 9.86</td>
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<tr>
<td>Skewness = -0.19 (Coarse Skewed)</td>
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<tr>
<td>Kurtosis = .87 phi (Platykurtic)</td>
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Inclusive SD (Sorting Coeff.) = 1.87 phi (Poorly Sorted)

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<thead>
<tr>
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<th>Wentworth</th>
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<tr>
<td>% Clay (0-2 um) = 13.79</td>
<td>% Clay (0-3.9 um) = 25.58</td>
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<tr>
<td>% Fine Silt (2-3.9 um) = 11.79</td>
<td>% Clay (3.91-31 um) = 55.33</td>
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<tr>
<td>d (0.1) : 1.538 um</td>
<td>d (0.1) : 1.320 um</td>
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<tr>
<td>d (0.5) : 11.320 um</td>
<td>d (0.9) : 43.809 um</td>
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Notes:
Grain-Size Analysis Report

Sample: 01-5-1 - Average
Source: DAMOS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water
Particle RI: 0.000
Dispersant RI: 1.330
Absorption: 0

D[4,3] = 32.74um = 4.93phi
D[3,2] = 10.93um = 8.64phi
D[v,0.5] = 14.92um = 6.07phi
D[v,0.65] = 42.1um = 4.57phi
D[v,0.16] = 2.74um = 8.51phi
D[v,0.95] = 74.04um = 3.76phi

Kurtosis = 110.21
Skewness = 9.72
Standard Deviation = 101.98um = 3.29phi

Inclusive Kurtosis = .92 phi (Mesokurtic)
Inclusive Skewness = -0.24 (Coarse Skewed)
Inclusive Mean = 6.38 phi (Silt)

USGS
% Fine Silt (2-3.9 um) = 9.65
% Coarse Silt (31 - 62.5 um) = 18.4

Wentworth
% Clay (0-2 um) = 11.7
% Clay (0-3.9 um) = 21.36
% Silt (3.91-31 um) = 53

% Medium sand (250-500 um) = .45
% Coarse sand (500-1000 um) = .88
% Very coarse sand (1000 - 2000 um) = .36

Absorption:

Obscuration:

Notes:
Grain-Size Analysis Report

Sample: 01-5-J - Average
Source: DAMOS
Cruise: DAMOS

Dispersant Name: Water
Particle Name: Fraunhofer

D[4,3] = 35.05um = 4.83phi
D[ν,0.5] = 15.26um = 6.03phi
Kurtosis = 97.11
Skewness = 8.66

Inclusive Kurtosis = .93 phi (Mesokurtic)
Inclusive SD (Sorting Coeff.) = 1.94 phi (Poorly Sorted)

Inclusive Mean = 6.34 phi (Silt)
Inclusive Skewness = -0.23 (Coarse Skewed)

D[v,0.05] = 1.09um = 8.63phi
D[v,0.16] = 2.76um = 8.49phi
D[v,0.95] = 81.16um = 3.62phi

Standard Deviation = 97.54 um = 3.36phi

% Clay (0-2 um) = 11.54
% Silt (3.91-31 um) = 52.02
% Coarse Silt (31 - 62.5 um) = 18.56
% Very Fine sand (62.5 - 125 um) = 5.27
% Very Coarse sand (1000 - 2000 um) = .22
% Fine sand (125-250 um) = .63
% Medium sand (250-500 um) = 1.42
% Coarse sand (500-1000 um) = .81
% Clay (0-3.9 um) = 21.08
% Silt (3.91-31 um) = 52.02
% Coarse Silt (31 - 62.5 um) = 18.56
% Very Fine sand (62.5 - 125 um) = 5.27
% Very Coarse sand (1000 - 2000 um) = .22
% Clay (0-3.9 um) = 21.08
% Silt (3.91-31 um) = 52.02
% Coarse Silt (31 - 62.5 um) = 18.56
% Very Fine sand (62.5 - 125 um) = 5.27
% Very Coarse sand (1000 - 2000 um) = .22
% Clay (0-3.9 um) = 21.08
% Silt (3.91-31 um) = 52.02
% Coarse Silt (31 - 62.5 um) = 18.56
% Very Fine sand (62.5 - 125 um) = 5.27
% Very Coarse sand (1000 - 2000 um) = .22
% Clay (0-3.9 um) = 21.08
% Silt (3.91-31 um) = 52.02
% Coarse Silt (31 - 62.5 um) = 18.56
% Very Fine sand (62.5 - 125 um) = 5.27
% Very Coarse sand (1000 - 2000 um) = .22

Notes:
# Grain-Size Analysis Report

**Sample:** 01-5-K - Average  
**Source:** Malvern, UK  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Julie  
**Measured:** Friday, August 07, 2009 9:34:06 AM

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<th>0</th>
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<tr>
<td>D[4,3] = 44.5µm = 4.49phi</td>
<td>D[v,0.5] = 14.94um = 6.06phi</td>
<td>D[v,0.05] = 1.98um = 8.85phi</td>
<td>D[v,0.16] = 2.74um = 8.51phi</td>
<td>D[v,0.95] = 77.67um = 3.69phi</td>
<td>Kurtosis = 58.48</td>
<td>Skewness = 7.2</td>
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</table>

**Inclusive SD (Sorting Coeff.) = 1.92 phi (Poorly Sorted)**  
**Inclusive Kurtosis = .94 phi (Mesokurtic)**  
**Inclusive Mean = 6.38 phi (Silt)**

**USGS**  
% Clay (0-2 um) = 11.7  
% Fine Silt (2-3.9 um) = 9.63

**Wentworth**  
% Clay (0-3.9 um) = 21.33  
% Silt (3.91-31 um) = 52.99

<table>
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<tr>
<th>Size Hi (um)</th>
<th>Size Lo (um)</th>
<th>% In</th>
<th>% Below</th>
<th>Size Hi (um)</th>
<th>Size Lo (um)</th>
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<th>% Below</th>
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**Notes:**

- **D**[4,3] = 44.5µm = 4.49phi
- **D**[v,0.05] = 1.98um = 8.85phi
- **D**[v,0.16] = 2.74um = 8.51phi
- **D**[v,0.95] = 77.67um = 3.69phi

- Obscuration : 13.68
- Kurtosis = 58.48
- Skewness = 7.2

- Inclusive SD (Sorting Coeff.) = 1.92 phi (Poorly Sorted)
- Inclusive Kurtosis = .94 phi (Mesokurtic)
- Inclusive Mean = 6.38 phi (Silt)

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**Graph:** Particle Size Distribution

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**Notes:**

- Malvern Instruments Ltd.
- Mastersizer 2000 Ver. 5.22
- File name: DAMOS.mea
- Record Number: 384
Grain-Size Analysis Report

Sample: 02-5-A - Average
Source: DAMOS
Cruise: DAMOS

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<th>Dispersant Name</th>
<th>Water</th>
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<th>Absorption: 0</th>
<th>Inclusive SD</th>
<th>Inclusive Skewness</th>
<th>Inclusive Kurtosis</th>
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<tr>
<td>D[v,0.16] = 2.5um = 8.64phi</td>
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Inclusive SD (Sorting Coeff.) = 1.88 phi (Poorly Sorted)
Inclusive Skewness = -0.22 (Coarse Skewed)
Inclusive Mean = 6.54 phi (Silt)

USGS
% Clay (0-2 um) = 12.71
% Fine Silt (2-3.9 um) = 10.65
% Clay (0-3.9 um) = 23.36
% Silt (3.91-31 um) = 54.33
% Coarse Silt (31 - 62.5 um) = 17.11
% Very Fine sand (62.5 - 125 um) = 5.05

Wentworth
% Fine sand (125-250 um) = .16
% Medium sand (250-500 um) = 0
% Coarse sand (500-1000 um) = 0
% Very Coarse sand (1000 - 2000 um) = 0

---

Particle Size Distribution

<table>
<thead>
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<th>Size Hi (um)</th>
<th>Size Lo (um)</th>
<th>% In</th>
<th>% Below</th>
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<td>0.00</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>22.10</td>
<td>0.00</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>15.63</td>
<td>0.00</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>11.05</td>
<td>0.00</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>7.81</td>
<td>0.00</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>5.52</td>
<td>0.00</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>3.90</td>
<td>0.00</td>
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<td>100</td>
</tr>
</tbody>
</table>

Notes:
### Grain-Size Analysis Report

**Sample:** 02-5-A (2)
**Source:** DAMOS
**Cruise:** DAMOS

<table>
<thead>
<tr>
<th>Particle Name</th>
<th>Dispersant Name</th>
<th>Particle RI</th>
<th>Absorption</th>
<th>Obscuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraunhofer</td>
<td>Water</td>
<td>0.000</td>
<td>0</td>
<td>17.58</td>
</tr>
</tbody>
</table>

- **D[4,3] = 39.7um = 4.65phi**
- **D[v,0.5] = 13.72um = 6.19phi**
- **Kurtosis = 77**
- **Skewness = 8.25**

- **Inclusive Mean = 6.44 phi (Silt)**
- **Inclusive Kurtosis = .92 phi (Mesokurtic)**
- **Inclusive Skewness = -0.17 (Coarse Skewed)**
- **Inclusive Mean = 6.44 phi (Silt)**

**USGS**
- % Clay (0-2 um) = 12.64
- % Fine Silt (2-3.9 um) = 10.34
- % Clay (0-3.9 um) = 22.98
- % Silt (3.91-31 um) = 51.32
- % Very Fine sand (62.5 - 125 um) = 5.88
- % Silt (3.91 - 62.5 um) = 16.55
- % Clay (0-3.9 um) = 22.98
- % Very Coarse sand (1000 - 2000 um) = .69

**Wentworth**
- % Fine sand (125-250 um) = 1.14
- % Medium sand (250-500 um) = .92
- % Fine sand (125-250 um) = 1.14
- % Medium sand (250-500 um) = .92

**Dispersant RI:**
- **D[v,0.5] = 13.72um = 6.19phi**
- **Kurtosis = 77**
- **Skewness = 8.25**

**Standard Deviation = 135.16 um = 2.89phi**

**Particle Size Distribution**

- **Dispersant Name:** Water
- **Particle Name:** Fraunhofer

**Notes:**

---

**Measured:** Tuesday, August 04, 2009 1:38:38 PM
**Record Number:** 13
**File name:** DAMOS.mea
Grain-Size Analysis Report

Sample: 02-5-B - Average
Source: 
Cruise: 
SOP Name: DAMOS
Measured by: Julie
Measured: Monday, August 03, 2009 10:36:12 AM

Particle Name: Fraunhofer
Dispersant Name: Water
Particle RI: 0.000
Dispersant RI: 1.330
Absorption: 0
Oscillation: 5.67

D[4,3] = 21.42um = 5.55phi
D[v,0.5] = 1.05um = 8.89phi
D[v,0.16] = 2.56um = 8.61phi

D[4,3] = 21.42um = 5.55phi
D[v,0.5] = 13.24um = 6.24phi
D[v,0.05] = 39.62um = 4.66phi
D[v,0.95] = 69.62um = 3.94phi

Inclusive SD (Sorting Coeff.) = 1.9 phi (Poorly Sorted)
Inclusive Kurtosis = .91 phi (Mesokurtic)
Inclusive Mean = 6.5 phi (Silt)

% Clay (0-3.9 um) = 22.86
% Silt (3.91-31 um) = 53.92
% Coarse Silt (31 - 62.5 um) = 16.79
% Very Fine sand (62.5 - 125 um) = 5.57
% Fine sand (125-250 um) = .87
% Medium sand (250-500 um) = 0
% Coarse sand (500-1000 um) = 0
% Very Coarse sand (1000 - 2000 um) = 0
% Clay (0-2 um) = 12.41
% Fine Silt (2-3.9 um) = 10.44
% Coarse Silt (1000 - 2000 um) = 0
% Silt (3.91-31 um) = 53.92
% Very Fine sand (62.5 - 125 um) = 5.57
% Fine sand (125-250 um) = .87
% Medium sand (250-500 um) = 0
% Coarse sand (500-1000 um) = 0
% Very Coarse sand (1000 - 2000 um) = 0

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 8
Grain-Size Analysis Report

Sample: 02-5-B (2) - Average
Source: DAMOS
Measured by: Julie
Measured: Tuesday, August 04, 2009 1:45:08 PM

<table>
<thead>
<tr>
<th>Particle Name</th>
<th>Dispersant Name</th>
<th>Particle RI</th>
<th>Absorption</th>
<th>Obscuration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0.000</td>
<td>0</td>
<td>30.59</td>
</tr>
</tbody>
</table>

D[4,3] = 67.92um = 3.88phi
D[v,0.05] = 1um = 9.97phi
D[v,0.16] = 2.49um = 8.65phi

D[v,0.5] = 14.35um = 6.12phi
D[v,0.64] = 49.82um = 4.33phi
D[v,0.95] = 323.97um = 1.63phi

Inclusive Kurtosis = 1.16 phi (Leptokurtic)
Inclusive SD (Sorting Coeff.) = 2.35 phi (Very Poorly Sorted)
Inclusive Skewness = -0.05 (Near Symmetrical)
Inclusive Mean = 6.37 phi (Silt)

USGS
% Clay (0-2 um) = 12.97
% Fine Silt (2-3.9 um) = 9.99

Wentworth
% Clay (0-3.9 um) = 22.96
% Silt (3.91-31 um) = 49.27
% Coarse Silt (31 - 62.5 um) = 15.67
% Very Fine sand (62.5 - 125 um) = 5.52
% Fine sand (125-250 um) = 1.28
% Medium sand (250-500 um) = 1.03
% Coarse sand (500-1000 um) = 2.37
% Very Coarse sand (1000 - 2000 um) = 1.9

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
File name: DAMOS.mea
Serial Number: MAL101534
Record Number: 20
Grain-Size Analysis Report

Sample: 02-5-C - Average  
Source:  
Cruise: DAMOS  
Measured by: Julie  
Measured: Tuesday, August 04, 2009 1:58:32 PM

<table>
<thead>
<tr>
<th>Particle Name: Fraunhofer</th>
<th>Dispersant Name: Water</th>
<th>Particle RI: 0.000</th>
<th>Dispersant RI: 1.330</th>
<th>Absorption: 0</th>
<th>Obscuration: 22.06</th>
</tr>
</thead>
</table>

D[4,3] = 59.75um = 4.06phi  
D[v,0.5] = 14.53um = 6.1phi  
Kurtosis = 36.29  
D[v,0.05] = 1.04um = 9.91phi  
Skewness = 5.78  
D[v,0.16] = 2.61um = 8.56phi  
Standard Deviation = 194.08 um = 2.37phi

Inclusive SD (Sorting Coeff.) = 2.18 phi (Very Poorly Sorted)  
Inclusive Skewness = -0.1 (Coarse Skewed)  
Inclusive Kurtosis = 1.02 phi (Mesokurtic)

Inclusive Mean = 6.33 phi (Silt)

USGS  
% Clay (0-2 um) = 12.32  
% Fine Silt (2-3.9 um) = 9.97  

Wentworth  
% Clay (0-3.9 um) = 22.29  
% Silt (3.91-31 um) = 49.36  
% Fine sand (125-250 um) = 1.67  
% Medium sand (250-500 um) = .86  
% Coarse sand (500-1000 um) = 1.83  
% Very Fine sand (62.5-125 um) = 6.32  
% Very Coarse sand (1000-2000 um) = 1.52

<table>
<thead>
<tr>
<th>Particle Size Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume (%)</td>
</tr>
<tr>
<td>0.01</td>
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<tr>
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<tr>
<td>1</td>
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</tr>
<tr>
<td>100</td>
</tr>
<tr>
<td>1000</td>
</tr>
<tr>
<td>3000</td>
</tr>
</tbody>
</table>

Notes:

-02-5-C - Average, Tuesday, August 04, 2009 1:58:32 PM
### Grain-Size Analysis Report

**Sample:** 02-5-D - Average  
**Source:** DAMOS  
**Cruise:** Julie  
**Measured by:** Julie  
**Measured:** Tuesday, August 04, 2009 1:53:06 PM

#### Particle Name:
- Fraunhofer
- Water

#### Particle RI:
- 0.000
- 1.330

#### Absorption:
- 0

#### Obscuration:
- 27.91

#### Dispersant Name:
- Water

#### Dispersant RI:
- 2.13

#### Size Lo:
- 1.03um
- 8.56um

#### Size Hi:
- 2.61um
- 8.85um

#### Kurtosis:
- 34.12

#### Skewness:
- 5.66

#### Inclusive SD (Sorting Coeff.)
- Very Poorly Sorted

#### Inclusive Kurtosis
- Mesokurtic

#### Inclusive Mean
- 6.34 phi (Silt)

#### USGS
- % Clay (0-2 um) = 12.38
- % Fine Silt (2-3.9 um) = 9.74

#### Wentworth
- % Clay (0-3.9 um) = 22.13
- % Silt (3.91-31 um) = 50.07
- % Coarse Silt (31-62.5 um) = 16.35
- % Very Fine sand (62.5-125 um) = 5.9
- % Fine sand (125-250 um) = 1.37
- % Medium sand (250-500 um) = .64
- % Coarse sand (500-1000 um) = 1.83
- % Very Coarse sand (1000-2000 um) = 1.71

#### Particle Size Distribution

<table>
<thead>
<tr>
<th>Particle Size (µm)</th>
<th>Volume (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01 - 0.1</td>
<td>0</td>
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<tr>
<td>0.1 - 1</td>
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<tr>
<td>1 - 10</td>
<td>3</td>
</tr>
<tr>
<td>10 - 100</td>
<td>4</td>
</tr>
<tr>
<td>100 - 1000</td>
<td>5</td>
</tr>
<tr>
<td>1000 - 3000</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Notes:

- D[4,3] = 61.2µm = 4.03phi
- D[v,0.5] = 14.86um = 6.07phi
- D[v,0.05] = 1.03um = 8.93phi
- D[v,0.16] = 2.61um = 8.56phi
- D[v,0.95] = 149.51um = 2.74phi
- D[4,3] = 15.0
- D[v,0.5] = 2.13
- D[v,0.05] = 0.72
- D[v,0.16] = 4.15
- Inclusive SD (Sorting Coeff.) = 2.14 phi (Very Poorly Sorted)
- Kurtosis = 34.12
- Skewness = 5.66
- Inclusive Kurtosis = 1.02 phi (Mesokurtic)
- Inclusive Mean = 6.34 phi (Silt)
- Inclusive SD = 202.8 µm = 2.3phi

---

Malvern Instruments Ltd.  
Malvern, UK  
Mastersizer 2000 Ver. 5.22  
Serial Number : MAL101534  
File name: DAMOS.mea  
Record Number: 24
Grain-Size Analysis Report

Sample: 02-5-E - Average  
Source: USGS  
Cruise: DAMOS

Dispersant Name: Fraunhofer  
Dispersant RI: 0.000  
Volume (%): 71.13

Inclusive SD (Sorting Coeff.) = 2.18 phi (Very Poorly Sorted)  
Inclusive Skewness = -0.11 (Coarse Skewed)  
Inclusive Kurtosis = 1.03 phi (Mesokurtic)

USGS
% Clay (0-2 um) = 12.79  
% Fine Silt (2.3-9.5 um) = 10.02

Wentworth
% Clay (0-3.9 um) = 22.81  
% Silt (3.91-31 um) = 49.85

% Coarse Silt (31 - 62.5 um) = 15.66  
% Very Fine sand (62.5 - 125 um) = 5.78

% Medium sand (250-500 um) = .6  
% Coarse sand (500-1000 um) = 1.86  
% Very Coarse sand (1000 - 2000 um) = 1.85

Notes:

D[4,3] = 63.08um = 3.99phi  
D[v,0.5] = 14.31um = 6.13phi  
Kurtosis = 32.25

D[0,16] = 2.52um = 8.63phi  
D[v,0.95] = 165.47um = 2.6phi  
Skewness = 5.52

D[v,0.05] = 1.01um = 8.95phi  
D[v,0.05] = 48.72um = 4.36phi  
Standard Deviation = 209.25 um = 2.26phi

D[v,0.16] = 2.52um = 8.63phi  
D[v,0.95] = 165.47um = 2.6phi

Inclusive Mean = 6.37 phi (Silt)

Absorption: 0  
Oscuration : 26.71

Notes:

Malvern Instruments Ltd.  
Malvern, UK

Mastersizer 2000 Ver. 5.22  
Serial Number : MAL101534

File name: DAMOS.meas  
Record Number: 32

--02-5-E - Average, Tuesday, August 04, 2009 2:03:13 PM--
Grain-Size Analysis Report

Sample: 02-5-F - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Julie
Measured: Tuesday, August 04, 2009 2:07:50 PM

% Fine Silt (2-3.9 um) = 10.34
% Clay (0-2 um) = 12.98

Inclusive Kurtosis = .99 phi (Mesokurtic)
Inclusive SD (Sorting Coeff.) = 2.1 phi (Very Poorly Sorted)

Inclusive Skewness = -0.13 (Coarse Skewed)
Inclusive Mean = 6.45 phi (Silt)

USGS
% Clay (0-2 um) = 12.98
% Fine Silt (2-3.9 um) = 10.34

Wentworth
% Fine sand (125-250 um) = .95
% Medium sand (250-500 um) = .83
% Coarse sand (500-1000 um) = 1.77
% Very Coarse sand (1000 - 2000 um) = 1.49

---02-5-F - Average, Tuesday, August 04, 2009 2:07:50 PM

Notes:
Grain-Size Analysis Report

Sample: 02-5-G - Average  
Source:  
Cruise: DAMOS  
SOP Name: DAMOS  
Measured by: Julie  
Measured: Tuesday, August 04, 2009 2:12:30 PM

Particle Name: Fraunhofer  
Dispersant Name: Water

<table>
<thead>
<tr>
<th>Particle Size Distribution</th>
<th>Volume (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01</td>
<td>1</td>
</tr>
<tr>
<td>0.01</td>
<td>1</td>
</tr>
</tbody>
</table>

D[4,3] = 64.09um = 3.96phi  
D[v,0.5] = 14.65um = 6.09phi  
Kurtosis = 32.07  
Skewness = 5.48  
Standard Deviation = 209.2 um = 2.26phi

Inclusive SD (Sorting Coeff.) = 2.22 phi (Very Poorly Sorted)  
Inclusive Skewness = -0.09 (Near Symmetrical)  
Inclusive Kurtosis = 1.07 phi (Mesokurtic)

USGS
% Clay (0-2 um) = 12.53  
% Fine Silt (2-3.9 um) = 9.88

Wentworth
% Clay (0-3.9 um) = 22.41  
% Silt (3.91-31 um) = 49.78  
% Coarse Silt (31 - 62.5 um) = 15.88  
% Very Fine sand (62.5 - 125 um) = 5.63  
% Fine sand (125-250 um) = 1.7  
% Medium sand (250-500 um) = .91  
% Coarse sand (500-1000 um) = 1.86  
% Very Coarse sand (1000 - 2000 um) = 1.83

Notes:

---

02-5-G - Average, Tuesday, August 04, 2009 2:12:30 PM

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Notes:
**Grain-Size Analysis Report**

**Sample:** 02-5-H - Average  
**Source:**  
**Cruise:** DAMOS  
**Measured by:** Julie  
**Measured:** Tuesday, August 04, 2009 2:17:00 PM

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Fraunhofer</th>
<th>Dispersant Name:</th>
<th>Water</th>
<th>Particle Ri:</th>
<th>0.000</th>
<th>Dispersant Ri:</th>
<th>1.330</th>
<th>Absorption:</th>
<th>0</th>
<th>Obscuration:</th>
<th>24.03</th>
</tr>
</thead>
</table>

**D[4.3] = 62.07um = 4.01phi**  
**D[v,0.5] = 14.84um = 6.07phi**  
**Kurtosis = 34.12**

**Inclusive SD (Sorting Coeff.) = 2.2 phi (Very Poorly Sorted)**

**Inclusive Skewness = -0.11 (Coarse Skewed)**

**Inclusive Kurtosis = 1.03 phi (Mesokurtic)**

**USGS**

<table>
<thead>
<tr>
<th>% Clay (0-2 um)</th>
<th>12.55</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Fine Silt (2-3.9 um)</td>
<td>9.87</td>
</tr>
</tbody>
</table>

**Wentworth**

<table>
<thead>
<tr>
<th>% Clay (0-3.9 um)</th>
<th>22.42</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Silt (3.91-31 um)</td>
<td>49.21</td>
</tr>
<tr>
<td>% Coarse Silt (31 - 62.5 um)</td>
<td>16.21</td>
</tr>
<tr>
<td>% Very Fine sand (62.5 - 125 um)</td>
<td>6.1</td>
</tr>
</tbody>
</table>

**Inclusive Mean = 6.33 phi (Silt)**

**Notes:**

<table>
<thead>
<tr>
<th>Size Hi/Lo</th>
<th>um</th>
<th>phi</th>
<th>% In</th>
<th>% Below</th>
<th>Size Hi/Lo</th>
<th>um</th>
<th>phi</th>
<th>% In</th>
<th>% Below</th>
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</thead>
<tbody>
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<tr>
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<td>0.0</td>
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<td>(1.95)</td>
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<tr>
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<td>(707.10)</td>
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<td>9.5</td>
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<td>(500.00)</td>
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<td>10.0</td>
<td>(0.98)</td>
</tr>
<tr>
<td>1.0</td>
<td>500.00</td>
<td>1.5</td>
<td>(353.55)</td>
<td>0.4</td>
<td>96.49</td>
<td>10.0</td>
<td>(0.98)</td>
<td>10.5</td>
<td>(0.69)</td>
</tr>
<tr>
<td>1.5</td>
<td>353.55</td>
<td>2.0</td>
<td>(250.00)</td>
<td>0.39</td>
<td>96.09</td>
<td>10.5</td>
<td>(0.69)</td>
<td>11.0</td>
<td>(0.49)</td>
</tr>
<tr>
<td>2.0</td>
<td>250.00</td>
<td>2.5</td>
<td>(176.78)</td>
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<td>(0.49)</td>
<td>11.5</td>
<td>(0.35)</td>
</tr>
<tr>
<td>2.5</td>
<td>176.78</td>
<td>3.0</td>
<td>(125.00)</td>
<td>1.12</td>
<td>95.05</td>
<td>11.5</td>
<td>(0.35)</td>
<td>12.0</td>
<td>(0.24)</td>
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<tr>
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<td>(88.39)</td>
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<td>(0.17)</td>
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<tr>
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<td>88.39</td>
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<td>(62.50)</td>
<td>4</td>
<td>91.83</td>
<td>12.5</td>
<td>(0.17)</td>
<td>13.0</td>
<td>(0.12)</td>
</tr>
<tr>
<td>4.0</td>
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<td>4.5</td>
<td>(44.19)</td>
<td>6.72</td>
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<td>(0.12)</td>
<td>13.5</td>
<td>(0.086)</td>
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<td>5.0</td>
<td>(31.25)</td>
<td>9.26</td>
<td>81.12</td>
<td>13.5</td>
<td>(0.086)</td>
<td>14.0</td>
<td>(0.061)</td>
</tr>
<tr>
<td>5.0</td>
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<td>5.5</td>
<td>(22.10)</td>
<td>10.43</td>
<td>71.86</td>
<td>13.5</td>
<td>(0.086)</td>
<td>14.5</td>
<td>(0.043)</td>
</tr>
<tr>
<td>5.5</td>
<td>22.10</td>
<td>6.0</td>
<td>(15.63)</td>
<td>10.03</td>
<td>61.43</td>
<td>14.0</td>
<td>(0.061)</td>
<td>15.0</td>
<td>(0.030)</td>
</tr>
<tr>
<td>6.0</td>
<td>15.63</td>
<td>6.5</td>
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<th>um</th>
<th>phi</th>
<th>% In</th>
<th>% Below</th>
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<th>um</th>
<th>phi</th>
<th>% In</th>
<th>% Below</th>
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<tr>
<td>14.5</td>
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<tr>
<td>15.0</td>
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</table>
**Grain-Size Analysis Report**

Sample: 02-51 - Average  
Source:  
Cruise: DAMOS

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Fraunhofer</th>
<th>Particle RI:</th>
<th>0.000</th>
<th>Absorption:</th>
<th>0</th>
<th>Obscuration:</th>
<th>19.27</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispersant Name:</td>
<td>Water</td>
<td>Dispersant RI:</td>
<td>1.330</td>
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<td></td>
</tr>
</tbody>
</table>

D[4,3] = 52.6um = 4.25phi  
D[4,0.05] = 1.03um = 9.93phi  
D[4,0.16] = 2.58um = 8.6phi

Inclusive SD (Sorting Coeff.) = 2.08 phi (Very Poorly Sorted)  
Inclusive Skewness = -0.16 (Coarse Skewed)  
Inclusive Mean = 6.38 phi (Silt)

**USGS**

<table>
<thead>
<tr>
<th>Particle Size Distribution</th>
</tr>
</thead>
</table>

- **Particle Name:** Fraunhofer  
- **Dispersant Name:** Water  
- **Particle RI:** 0.000  
- **Absorption:** 0  
- **Obscuration:** 19.27

D[4,3] = 52.6um = 4.25phi  
D[4,0.05] = 1.03um = 9.93phi  
D[4,0.16] = 2.58um = 8.6phi

Inclusive SD (Sorting Coeff.) = 2.08 phi (Very Poorly Sorted)  
Inclusive Skewness = -0.16 (Coarse Skewed)  
Inclusive Mean = 6.38 phi (Silt)

**USGS**

<table>
<thead>
<tr>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
</table>

**Wentworth**

<table>
<thead>
<tr>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
</table>

**Notes:**

- 02-51 - Average, Tuesday, August 04, 2009 2:23:03 PM
Grain-Size Analysis Report

Sample: 02-5-J - Average
Source: USGS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water

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<thead>
<tr>
<th>D4,3</th>
<th>Dv,0.5</th>
<th>Dv,0.16</th>
</tr>
</thead>
<tbody>
<tr>
<td>46.81um</td>
<td>4.42phi</td>
<td></td>
</tr>
<tr>
<td>1.04um</td>
<td>8.91phi</td>
<td></td>
</tr>
<tr>
<td>2.67um</td>
<td>8.55phi</td>
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</tr>
</tbody>
</table>

Inclusive SD (Sorting Coeff.) = 2.01 phi (Very Poorly Sorted)
Inclusive Skewness = -0.22 (Coarse Skewed)
Inclusive Kurtosis = .92 phi (Mesokurtic)

USGS

<table>
<thead>
<tr>
<th>Sample</th>
<th>Source</th>
<th>Cruise</th>
<th>Measured by</th>
<th>Measured:</th>
</tr>
</thead>
<tbody>
<tr>
<td>02-5-J</td>
<td>USGS</td>
<td>DAMOS</td>
<td>Julie</td>
<td>Tuesday, August 04, 2009 2:27:39 PM</td>
</tr>
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</table>

Notes:

Notes:

Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.meas
Record Number: 52
Grain-Size Analysis Report

Sample: 03-1-A - Average  
Source: USGS  
Cruise: DAMOS

Particle Name: Fraunhofer  
Dispersant Name: Water  
Dispersant RI: 1.33  
Absorption: 0  
Inclusive SD (Sorting Coeff.) = 1.94 phi (Poorly Sorted)

Inclusive Kurtosis = .89 phi (Platykurtic)
Inclusive Mean = 6.33 phi (Silt)

USGS
% Clay (0-2 um) = 11.77
% Fine Silt (2-3.9 um) = 9.66

Wentworth
% Clay (0-3.9 um) = 21.43
% Silt (3.91-31 um) = 50.37
% Coarse Silt (31 - 62.5 um) = 20.34
% Very Fine sand (62.5 - 125 um) = .17

% Fine sand (125-250 um) = .06
% Medium sand (250-500 um) = .17
% Coarse sand (500-1000 um) = .67
% Very Coarse sand (1000 - 2000 um) = .46

Notes: D[4,3] = 33.93um = 4.88phi
D[v,0.5] = 15.77um = 5.99phi
Kurtosis = 114.02
Skewness = 10.02

Standard Deviation = 110.63 um = 3.18phi

D[v,0.84] = 45.04um = 4.47phi
D[v,0.05] = 1.08um = 8.85phi
D[v,0.16] = 2.73um = 8.52phi

D[v,0.95] = 74.07um = 3.75phi

Inclusive Mean = 6.33 phi (Silt)

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 288

Notes:

- 33.93um = 4.88phi
- 15.77um = 5.99phi
- Kurtosis = 114.02
- Skewness = 10.02
- Standard Deviation = 110.63 um = 3.18phi
- Inclusive Mean = 6.33 phi (Silt)
**Grain-Size Analysis Report**

**Sample:** 03-1-B - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Julie  
**Measured:** Thursday, August 06, 2009 10:10:17 AM

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Fraunhofer</th>
<th>Dispersion Name:</th>
<th>Water</th>
<th>Particle RI: 0.000</th>
<th>Absorption: 0</th>
<th>Dispersant RI: 1.330</th>
</tr>
</thead>
</table>

| D[4,3] | 26.33um | 5.25phi |
| D[v,0.05] | 1.06um | 8.88phi |
| D[v,0.16] | 2.58um | 8.6phi |
| D[v,0.95] | 65.97um | 3.92phi |

Inclusive Kurtosis = 0.88 phi (Platykurtic)  
Inclusive SD (Sorting Coeff.) = 1.9 phi (Poorly Sorted)  
Inclusive Skewness = -0.24 (Coarse Skewed)  
Inclusive Mean = 6.46 phi (Silt)  

<table>
<thead>
<tr>
<th>USGS</th>
<th>Wentworth</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Clay (0-2 um) = 12.31</td>
<td>% Fine sand (125-250 um) = 0.02</td>
</tr>
<tr>
<td>% Fine Silt (2-3.9 um) = 10.34</td>
<td>% Medium sand (250-500 um) = 0.15</td>
</tr>
<tr>
<td></td>
<td>% Coarse sand (500-1000 um) = 0.5</td>
</tr>
<tr>
<td>d (0.1) : 1.678 um</td>
<td>% Very Coarse sand (1000-2000 um) = 0.15</td>
</tr>
<tr>
<td>d (0.5) : 14.076</td>
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</tr>
<tr>
<td>d (0.9) : 50.856</td>
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</tr>
</tbody>
</table>

**Notes:**

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**03-1-B - Average, Thursday, August 06, 2009 10:10:17 AM**

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**Dispersant Name:** 03-1-B - Average, Thursday, August 06, 2009 10:10:17 AM

**Dispersant RI:**
- D[v,0.05] = 14.08um = 6.15phi
- D[v,0.84] = 46.62um = 4.62phi
- D[v,0.95] = 65.97um = 3.92phi

**Skewness:** 11.5

**Inclusive Mean:** 6.46 phi (Silt)  
**Inclusive Kurtosis:** 0.88 phi (Platykurtic)  
**Inclusive SD (Sorting Coeff.):** 1.9 phi (Poorly Sorted)  
**Inclusive Skewness:** -0.24 (Coarse Skewed)

**Particle Size Distribution**

**Size Hi**

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<th>um</th>
<th>% In</th>
<th>% Below</th>
</tr>
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<tbody>
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<td>-1</td>
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<td>-0.5</td>
<td>(1414.21)</td>
</tr>
<tr>
<td>-0.5</td>
<td>(1414.21)</td>
<td>0.0</td>
<td>(1000.00)</td>
</tr>
<tr>
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<td>(1000.00)</td>
<td>0.5</td>
<td>(707.10)</td>
</tr>
<tr>
<td>0.5</td>
<td>(707.10)</td>
<td>1.0</td>
<td>(500.00)</td>
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<tr>
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<td>(500.00)</td>
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<td>(353.55)</td>
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<tr>
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<td>(353.55)</td>
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<td>(250.00)</td>
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<tr>
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<td>(250.00)</td>
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<td>(176.78)</td>
</tr>
<tr>
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<td>(176.78)</td>
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<td>(125.00)</td>
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<tr>
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<td>(125.00)</td>
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<td>(88.39)</td>
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<tr>
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<td>(62.50)</td>
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**Size Lo**

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<td>(1414.21)</td>
</tr>
<tr>
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<td>(1000.00)</td>
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<td>(707.10)</td>
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<td>(500.00)</td>
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<td>(353.55)</td>
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<td>(353.55)</td>
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<td>(22.10)</td>
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<td>(7.81)</td>
</tr>
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<td>(7.81)</td>
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<td>(5.52)</td>
</tr>
<tr>
<td>7.5</td>
<td>(5.52)</td>
<td>8.0</td>
<td>(3.90)</td>
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</table>

**Notes:**
Grain-Size Analysis Report

Sample: 03-1-C - Average  
Source:  
Cruise: DAMOS  
SOP Name: DAMOS  
Measured by: Julie  
Measured: Thursday, August 06, 2009 10:20:51 AM  

<table>
<thead>
<tr>
<th>Particle Name</th>
<th>Dispersant Name</th>
<th>Particle RI</th>
<th>Absorption</th>
<th>Inclusive Kurtosis</th>
<th>Inclusive Skewness</th>
<th>Inclusive SD (Sorting Coeff.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraunhofer</td>
<td>Water</td>
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<td>0</td>
<td>.89 phi</td>
<td>-0.25</td>
<td>Poorly Sorted</td>
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</tbody>
</table>

**Particle Size Distribution**

- **Size Hi** (um): 1.07  
- **Size Lo** (um): 8.87

**Obscuration**:
- D[v,0.05] = 28.01um = 5.16phi
- D[v,0.84] = 14.51um = 6.11phi
- D[v,0.95] = 66.16um = 3.92phi

**Inclusive SD (Sorting Coeff.)**:
- 1.89 phi (Poorly Sorted)

**Inclusive Kurtosis**:
- .89 phi (Platykurtic)

**Inclusive Mean**:
- 6.43 phi (Silt)

**USGS**
- % Clay (0-2 um) = 12.03
- % Fine Silt (2-3.9 um) = 9.98

**Wentworth**
- % Clay (0-3.9 um) = 22.01
- % Silt (3.91-31 um) = 52.95
- % Coarse Silt (31 - 62.5 um) = 19.14
- % Very Fine sand (62.5 - 125 um) = 4.89
- % Fine sand (125-250 um) = .02
- % Medium sand (250-500 um) = .19
- % Coarse sand (500-1000 um) = .59
- % Very Coarse sand (1000 - 2000 um) = .21

**Notes:**
- 03-1-C - Average, Thursday, August 06, 2009 10:20:51 AM

---

**Malvern Instruments Ltd.**  
Malvern, UK  
Mastersizer 2000 Ver. 5.22  
Serial Number: MAL101534  
Record Number: 300  
File name: DAMOS.mea
Grain-Size Analysis Report

Sample: 03-1-D - Average  
Source:  
Cruise: DAMOS  
SOP Name: DAMOS  
Measured by: Julie  
Measured: Thursday, August 06, 2009 10:15:01 AM  

D[4,3] = 25.86um = 5.27phi  
D[v,0.5] = 13.55um = 6.21phi  
Kurtosis = 127.71  
Standard Deviation = 71.65 um = 3.8phi  

Inclusive SD (Sorting Coeff.) = 1.88 phi (Poorly Sorted)  
Inclusive Skewness = -0.24 (Coarse Skewed)  
Inclusive Mean = 6.5 phi (Silt)  

USGS  
% Clay (0-2 um) = 12.53  
% Fine Silt (2-3.9 um) = 10.43  

Wentworth  
% Clay (0-3.9 um) = 22.96  
% Silt (3.91-31 um) = 53.88  
% Coarse Silt (31 - 62.5 um) = 18.04  
% Very Fine sand (62.5 - 125 um) = 4.22  
% Fine sand (125-250 um) = 0  
% Medium sand (250-500 um) = .18  
% Coarse sand (500-1000 um) = .61  
% Very Coarse sand (1000 - 2000 um) = .11  

Notes:

Malvern Instruments Ltd.  
Malvern, UK  
Mastersizer 2000 Ver. 5.22  
Serial Number : MAL101534  
File name: DAMOS.mea  
Record Number: 296
**Grain-Size Analysis Report**

**Sample:** 03-2-A - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**Measured by:** Julie  
**Measured:** Thursday, August 06, 2009 10:26:05 AM

**Particle Name:** Fraunhofer  
**Dispersant Name:** Water  
**Particle RI:** 0.000  
**Dispersant RI:** 1.330  
**Absorption:** 0  
**Obscuration:** 14.06

<table>
<thead>
<tr>
<th>% Coarse Silt (31 - 62.5 um)</th>
<th>14.19</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Very Fine sand (62.5 - 125 um)</td>
<td>0.05</td>
</tr>
<tr>
<td>% Very Coarse sand (1000 - 2000 um)</td>
<td>0.57</td>
</tr>
<tr>
<td>% Coarse sand (500-1000 um)</td>
<td>0.24</td>
</tr>
</tbody>
</table>

**Inclusive SD (Sorting Coeff.) = 1.93 phi (Poorly Sorted)**  
**Inclusive Kurtosis = .92 phi (Mesokurtic)**  
**Inclusive Mean =  6.61 phi (Silt)**

**USGS**  
% Clay (0-2 um) = 13.11  
% Fine Silt (2-3.9 um) = 11.36  
% Clay (0-3.9 um) = 24.48  
% Silt (3.91-31 um) = 54.53  
% Coarse Silt (31 - 62.5 um) = 14.19  
% Very Fine sand (62.5 - 125 um) = 4.1

**Wentworth**  
% Clay (0-250 um) = .72  
% Medium sand (250-500 um) = .48  
% Coarse sand (500-1000 um) = .94  
% Very Coarse sand (1000 - 2000 um) = .57

**Grain Size Distribution**

**Notes:**

---

**Malvern Instruments Ltd.**  
**Serial Number:** MAL101534  
**File name:** DAMOS.mea  
**Record Number:** 304
### Grain-Size Analysis Report

**Sample:** 03-2-B - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**Measured by:** Julie  
**Measured:** Thursday, August 06, 2009 10:30:40 AM

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<th>Dispersant RI:</th>
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</thead>
<tbody>
<tr>
<td>Particle RI:</td>
<td>0.000</td>
<td>Absorption:</td>
<td>0</td>
<td>Obscuration:</td>
<td>13.96</td>
</tr>
</tbody>
</table>

- **Size Hi (um):** 48.460  
  - **Size Lo (um):** 1.638

### Size Distribution

#### Inclusive SD (Sorting Coeff.) = 1.89 phi (Poorly Sorted)

#### Inclusive Kurtosis = .91 phi (Mesokurtic)

#### Inclusive Mean = 6.58 phi (Silt)

**USGS**

- **% Clay (0-2 um):** 12.72
- **% Fine Silt (2-3.9 um):** 11.06

**Wentworth**

- **% Clay (0-3.9 um):** 23.78
- **% Silt (3.91-31 um):** 54.96
- **% Coarse Silt (31-62.5 um):** 15.41
- **% Very Fine sand (62.5-125 um):** 4.16
- **% Fine sand (125-250 um):** .21
- **% Medium sand (250-500 um):** .21
- **% Coarse sand (500-1000 um):** .8
- **% Very Coarse sand (1000-2000 um):** .47

<table>
<thead>
<tr>
<th>Size Hi</th>
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<th>% In</th>
<th>% Below</th>
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<td>phi</td>
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<td>(3.90)</td>
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### Notes:

- **Observed:** 13.96
- **Skewness:** 9.61
- **Kurtosis:** 104.42
- **Mean:** 6.58 phi (Silt)
- **Inclusive Mean:** 6.58 phi (Silt)
Grain-Size Analysis Report

Sample: 03-2-C - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Julie
Measured: Thursday, August 06, 2009 10:35:21 AM

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<td>Water</td>
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<td>13.60</td>
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</tbody>
</table>

- D[4,3] = 28.71um = 5.12phi
- D[0.05] = 1.04um = 9.89phi
- D[0.16] = 2.5um = 6.64phi
- D[0.5] = 12.28um = 6.35phi
- Kurtosis = 99.35
- Skewness = 9.44
- Inclusive Skewness = -0.19 (Coarse Skewed)
- Inclusive Kurtosis = .9 phi (Mesokurtic)

USGS

- % Clay (0-2 um) = 12.66
- % Fine Silt (2-3.9 um) = 11

Wentworth

- % Clay (0-3.9 um) = 23.66
- % Silt (3.91-31 um) = 55.31
- % Coarse Silt (31 - 62.5 um) = 15.63
- % Very Fine sand (62.5 - 125 um) = 3.95

Notes:

<table>
<thead>
<tr>
<th>Size Hi</th>
<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
<th>Size Hi</th>
<th>Size Lo</th>
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<td>30.54</td>
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</tr>
</tbody>
</table>

Notes:

- d (0.1) : 1.643 um
- d (0.5) : 12.281 um
- d (0.9) : 47.450 um

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 312
**Grain-Size Analysis Report**

Sample: 03-2-D - Average  
Source: DAMOS  
Cruise: DAMOS  
SOP Name: DAMOS  
Measured by: Julie  
Measured: Thursday, August 06, 2009 10:40:07 AM

### Particle Size Distribution

- **Dispersant Name:** Fraunhofer  
  - **Dispersant RI:** 0.000  
  - **Absorption:** 0  
  - **Inclusive SD (Sorting Coeff.):** 1.93 phi (Poorly Sorted)

- **Dispersant Name:** Water  
  - **Dispersant RI:** 1.330  
  - **Inclusive Kurtosis:** .92 phi (Mesokurtic)

### Inclusive SD (Sorting Coeff.) = 1.93 phi (Poorly Sorted)

- **Inclusive Skewness:** = -0.18 (Coarse Skewed)
- **Inclusive Mean:** = 6.5 phi (Silt)

### Particle Name:
- **Coarse Silt (31 - 62.5 µm):** 15.94
- **Very Fine sand (62.5 - 125 µm):** 4.94
- **Very Coarse sand (1000 - 2000 µm):** .2
- **Coarse sand (500-1000 µm):** .78
- **Fine sand (125-250 µm):** .8
- **Medium sand (250-500 µm):** .54
- **Fine Silt (2-3.9 µm):** 10.67
- **Silt (3.91-31 µm):** 53.8
- **Clay (0-2 µm):** 12.34
- **Clay (0-3.9 µm):** 23

### Obscuration:
- **D[4,3] = 30.28µm = 5.05phi**
- **D[v,0.5] = 12.96µm = 6.27phi**
- **D[v,0.05] = 40.15µm = 4.64phi**
- **D[v,0.16] = 75.85um = 3.72phi**

### Inclusive Kurtosis = .92 phi (Mesokurtic)

### Inclusive Skewness = -0.18 (Coarse Skewed)

### Inclusive Mean = 6.5 phi (Silt)

---

**Notes:**

- **d (0.1) : 1.676 µm**  
  - **d (0.5) : 12.958 µm**  
  - **d (0.9) : 52.756 µm**

---

**Obscuration:**
- **D[4,3] = 30.28um = 5.05phi**
- **D[v,0.5] = 12.96um = 6.27phi**
- **D[v,0.05] = 40.15um = 4.64phi**
- **D[v,0.16] = 75.85um = 3.72phi**

- **Kurtosis = 91.29**
- **Skewness = 8.86**
- **Inclusive In : 1000.00**
- **Inclusive % Below : 100**
- **Inclusive % In : 0**

---

**Volume (%):**
- **0.01**
- **0.1**
- **1**
- **10**
- **100**
- **1000**
- **3000**

---

**Notes:**

- **d (0.1) : 1.676 µm**  
  - **d (0.5) : 12.958 µm**  
  - **d (0.9) : 52.756 µm**

---

**Measurement Details:**

- **d (0.1) : 1.676**
- **d (0.5) : 12.958**
- **d (0.9) : 52.756**

---

**Technical Details:**

- **Malvern, UK**
- **Malvern Instruments Ltd.**
- **Mastersizer 2000 Ver. 5.22**
- **Serial Number : MAL101534**
- **Record Number: 316**
- **File name: DAMOS.mea**
Grain-Size Analysis Report

Sample: 03-2-E - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Julie
Measured: Thursday, August 06, 2009 10:44:29 AM

Particle Name: Fraunhofer
Dispersant Name: Water
Dispersant RI: 0.000
Absorption: 0
Oscillation: 12.53

D[4,3] = 32.03um = 4.96phi
D[v,0.5] = 13.07um = 6.26phi
Kurtosis = 98.76

D[4,0] = 105.38um = 3.25phi
D[v,0.05] = 4.04gm = 4.63phi
Skewness = 9.31

D[2,1] = 1.92 phi (Sorting Coefficient)
D[4,0.5] = 1.36 phi (Skewness)
D[2,2] = 6.49 phi (Mean)

% Coarse Silt (31 - 62.5 um) = 16.29
% Very Fine sand (62.5 - 125 um) = 5.23
% Fine Silt (2 - 3.9 um) = 10.63
% Clay (0-2 um) = 12.28
% Silt (3.91-31 um) = 53.62
% Sandy clay (75-150 um) = 14.3
% Very Fine sand (0.063-0.125 mm) = 23.1
% Fine sand (0.125-0.25 mm) = 27.2
% Coarse sand (0.25-0.5 mm) = 18.5
% Very coarse sand (0.5-1 mm) = 5.1
% Medium sand (1-2 mm) = 2.3
% Coarse gravel (2-4 mm) = 0.7
% Very coarse gravel (4-8 mm) = 0.1
% Boulders (8-16 mm) = 0.0
% Not measurable = 0.0

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
Record Number: 320
File name: DAMOS.mea

---03-2-E - Average, Thursday, August 06, 2009 10:44:29 AM---
### Grain-Size Analysis Report

**Sample:** 03-2-F - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured:** Thursday, August 06, 2009 10:48:59 AM

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<th>Inclusive Kurtosis:</th>
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<tbody>
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<tr>
<td>Very Fine sand (62.5 - 125 um)</td>
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<td>Fine Silt (2-3.9 um)</td>
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<tr>
<td>USGS % Clay (0-2 um)</td>
<td>12.16</td>
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<td></td>
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<tr>
<td>Wentworth % Clay (0-3.9 um)</td>
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<td>% Silt (3.91-31 um)</td>
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<tr>
<td>% Coarse Silt (31 - 62.5 um)</td>
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<td>% Very Fine sand (62.5 - 125 um)</td>
<td>4.84</td>
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</tbody>
</table>

**D[4,3] = 36.18um = 4.79phi**  
**D[v,0.5] = 13.26um = 6.24phi**  
**Kurtosis = 75.58**

**D[4,3] = 1.694 um**

**D[0.1) : 13.260**

**D[0.5) : 53.748**

### Particle Size Distribution

**Notes:**
- Inclusive SD (Sorting Coeff.) = 1.93 phi (Poorly Sorted)
- Inclusive Skewness = -0.18 (Coarse Skewed)
- Inclusive Kurtosis = .93 phi (Mesokurtic)
- Inclusive Mean = 6.48 phi (Silt)

---

**Size Hi** | **Size Lo** | **% In** | **% Below** | **Size Hi** | **Size Lo** | **% In** | **% Below**
| phi um | phi um | | | phi um | phi um | | |
| -1 (2000.00) | -0.5 (1414.21) | 0.09 | 100 | 8.0 (3.90) | 8.5 (2.76) | 5.76 | 22.62 |
| -0.5 (1414.21) | 0.0 (1000.00) | 0.35 | 99.91 | 8.5 (2.76) | 9.0 (1.95) | 5.03 | 16.86 |
| 0.0 (1000.00) | 0.5 (707.10) | 0.57 | 99.56 | 9.0 (1.95) | 9.5 (1.38) | 4.24 | 11.84 |
| 0.5 (707.10) | 1.0 (500.00) | 0.6 | 98.99 | 9.5 (1.38) | 10.0 (0.98) | 3.34 | 7.6 |
| 1.0 (500.00) | 1.5 (353.55) | 0.41 | 98.39 | 10.0 (0.98) | 10.5 (0.69) | 2.33 | 4.26 |
| 1.5 (353.55) | 2.0 (250.00) | 0.19 | 97.98 | 10.5 (0.69) | 11.0 (0.49) | 1.35 | 1.93 |
| 2.0 (250.00) | 2.5 (176.78) | 0.12 | 97.79 | 11.0 (0.49) | 11.5 (0.35) | 0.53 | 0.58 |
| 2.5 (176.78) | 3.0 (125.00) | 0.44 | 97.68 | 11.5 (0.35) | 12.0 (0.24) | 0.05 | 0.05 |
| 3.0 (125.00) | 3.5 (88.39) | 1.41 | 97.24 | 12.0 (0.24) | 12.5 (0.17) | 0 | 0 |
| 3.5 (88.39) | 4.0 (62.50) | 3.44 | 95.83 | 12.5 (0.17) | 13.0 (0.12) | 0 | 0 |
| 4.0 (62.50) | 4.5 (44.19) | 6.41 | 92.4 | 13.0 (0.12) | 13.5 (0.086) | 0 | 0 |
| 4.5 (44.19) | 5.0 (31.25) | 9.32 | 85.99 | 13.5 (0.086) | 14.0 (0.061) | 0 | 0 |
| 5.0 (31.25) | 5.5 (22.10) | 10.94 | 76.67 | 14.0 (0.061) | 14.5 (0.043) | 0 | 0 |
| 5.5 (22.10) | 6.0 (15.63) | 10.91 | 65.73 | 14.5 (0.043) | 15.0 (0.030) | 0 | 0 |
| 6.0 (15.63) | 6.5 (11.05) | 9.83 | 54.82 | 15.0 (0.030) | 15.5 (0.020) | 0 | 0 |
| 6.5 (11.05) | 7.0 (7.81) | 8.5 | 44.99 | | | | |
| 7.0 (7.81) | 7.5 (5.52) | 7.37 | 36.5 | | | | |
| 7.5 (5.52) | 8.0 (3.90) | 6.5 | 29.13 | | | | |
| 8.0 (3.90) | | | | | | | |

---

**Notes:**
- Malvern Instruments Ltd.
- Malvern, UK
- Mastersizer 2000 Ver. 5.22
- Serial Number: MAL101534
- File name: DAMOS.mea
- Record Number: 324
Grain-Size Analysis Report

Sample: 03-2-G - Average
Source: Damos
Cruise: Damos

Particle Name: Fraunhofer
Dispersant Name: Water

<table>
<thead>
<tr>
<th>Particle Size Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particle Size (µm)</td>
</tr>
<tr>
<td>0.01</td>
</tr>
<tr>
<td>0.1</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td>100</td>
</tr>
<tr>
<td>1000</td>
</tr>
<tr>
<td>3000</td>
</tr>
</tbody>
</table>

Notes:

- Inclusive SD (Sorting Coeff.) = 1.89 phi (Poorly Sorted)
- Inclusive Kurtosis = .92 phi (Mesokurtic)
- Inclusive Mean = 6.49 phi (Silts)

USGS
% Clay (0-2 um) = 12.07
% Fine Silt (2-3.9 um) = 10.39
% Clay (0-3.9 um) = 24.46
% Silt (3.91-31 um) = 54.68
% Coarse Silt (31-62.5 um) = 16.4
% Very Fine sand (62.5 - 125 um) = 4.46

Wentworth
% Fine sand (125-250 um) = .5
% Medium sand (250-500 um) = .66
% Coarse sand (500-1000 um) = .67
% Very Coarse sand (1000 - 2000 um) = .17

Malvern Instruments Ltd.
Malvern, UK
Serial Number: MAL101534
Mastersizer 2000 Ver. 5.22
File name: DAMOS.mea
Record Number: 328
Grain-Size Analysis Report

Sample: 03-2-H - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Julie
Measured: Thursday, August 06, 2009 10:59:14 AM

Particle Name: Dispersant Name: Particle RI: Dispersant RI: Absorption: Obscuration:
Fraunhofer Water 0.000 1.330 0 14.53

D[4,3] = 36.27um = 4.79phi
D[v,0.5] = 13.81um = 6.18phi
Kurtosis = 88.49
D[v,0.16] = 2.65um = 8.56phi
Skewness = 8.76

D[4,3] = 36.27um = 4.79phi
D[v,0.5] = 13.81um = 6.18phi
Kurtosis = 88.49
D[v,0.16] = 2.65um = 8.56phi
Skewness = 8.76

Inclusive SD (Sorting Coeff.) = 1.93 phi (Poorly Sorted)
Inclusive Skewness = -0.2 (Coarse Skewed)
Inclusive Mean = 6.44 phi (Silt)

USGS Wentworth

% Clay (0-2 um) = 12.02
% Silt (3.91-31 um) = 53.42
% Very Coarse sand (1000 - 2000 um) = 0.53
% Very Fine sand (62.5 - 125 um) = 4.83
% Fine sand (125-250 um) = .73
% Medium sand (250-500 um) = .62
% Coarse sand (500-1000 um) = .88
% Very Coarse sand (1000 - 2000 um) = .53
% Fine silt (2-3.9 um) = 10.18
% Clay (0-3.9 um) = 22.21
% Silt (3.91-31 um) = 53.42
% Coarse silt (31 - 62.5 um) = 16.79
% Medium sand (250-500 um) = .62
% Coarse sand (500-1000 um) = .88
% Very Coarse sand (1000 - 2000 um) = .53
% Very Fine sand (62.5 - 125 um) = 4.83
% Clay (0-2 um) = 12.02
% Silt (3.91-31 um) = 53.42
% Very Coarse sand (1000 - 2000 um) = 0.53
% Very Fine sand (62.5 - 125 um) = 4.83
% Fine sand (125-250 um) = .73
% Medium sand (250-500 um) = .62
% Coarse sand (500-1000 um) = .88
% Very Coarse sand (1000 - 2000 um) = .53
% Clay (0-3.9 um) = 22.21
% Silt (3.91-31 um) = 53.42
% Coarse silt (31 - 62.5 um) = 16.79
% Medium sand (250-500 um) = .62
% Coarse sand (500-1000 um) = .88
% Very Coarse sand (1000 - 2000 um) = .53
% Fine silt (2-3.9 um) = 10.18
% Clay (0-3.9 um) = 22.21
% Silt (3.91-31 um) = 53.42
% Coarse silt (31 - 62.5 um) = 16.79
% Medium sand (250-500 um) = .62
% Coarse sand (500-1000 um) = .88
% Very Coarse sand (1000 - 2000 um) = .53
% Fine silt (2-3.9 um) = 10.18
% Clay (0-3.9 um) = 22.21
% Silt (3.91-31 um) = 53.42
% Coarse silt (31 - 62.5 um) = 16.79
% Medium sand (250-500 um) = .62
% Coarse sand (500-1000 um) = .88
% Very Coarse sand (1000 - 2000 um) = .53

Dispersant Name: Water
Inclusive Kurtosis = .93 phi (Mesokurtic)

Inclusive Mean = 6.44 phi (Silt)

Notes:

- Inclusive SD (Sorting Coeff.) = 1.93 phi (Poorly Sorted)
- Inclusive Skewness = -0.2 (Coarse Skewed)
- Inclusive Mean = 6.44 phi (Silt)

Source:

Dispersant Name:

Fraunhofer

Malvern, UK

File name: DAMOS.mea
Record Number: 332

Malvern Instruments Ltd.
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
Grain-Size Analysis Report

Sample: 03-2-1 - Average
Source: USGS
Cruise: Julie
SOP Name: DAMOS
Measured: Thursday, August 06, 2009 11:44 AM

<table>
<thead>
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<th>Particle Name:</th>
<th>Fraunhofer</th>
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<tbody>
<tr>
<td>Dispersant Name:</td>
<td>Water</td>
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<tr>
<td>Particle RI:</td>
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<tr>
<td>Absorption:</td>
<td>0</td>
</tr>
<tr>
<td>Obscuration:</td>
<td>12.68</td>
</tr>
</tbody>
</table>

- **D[4.3] = 25.75um = 5.28phi**
- **D[v,0.5] = 14.65um = 6.09phi**
- **D[v,0.05] = 1.88um = 0.01phi**
- **D[v,0.95] = 76.92um = 3.7phi**
- **Standard Deviation = 40.47um = 4.63phi**
- **Kurtosis = 39.48**
- **Skewness = 5.33**

**Inclusive SD (Sorting Coeff.) = 1.93 phi (Poorly Sorted)**

**Inclusive Kurtosis = .92 phi (Mesokurtic)**

**Inclusive Mean = 6.38 phi (Silt)**

**USGS**
- % Clay (0-2 um) = 11.72
- % Fine Silt (2-3.9 um) = 9.84

**Wentworth**
- % Clay (0-3.9 um) = 21.56
- % Silt (3.91-31 um) = 52.38
- % Coarse Silt (31 - 62.5 um) = 18.2
- % Very Fine sand (62.5 - 125 um) = 5.82
- % Fine sand (125-250 um) = 1.19
- % Medium sand (250-500 um) = .84
- % Coarse sand (500-1000 um) = .01
- % Very Coarse sand (1000 - 2000 um) = 0

**Obscuration :** 12.68
**Skewness :** 5.33
**Kurtosis :** 39.48

**Notes:**
- **d (0.1) : 1.743 um**
- **d (0.5) : 14.648 um**
- **d (0.9) : 55.655 um**

**Inclusive Mean = 6.38 phi (Silt)**

**Notes:**
- **d (0.9) : 55.655 um**
- **d (0.5) : 14.648 um**
- **d (0.1) : 1.743 um**

**Size Hi phi** | **Size Lo phi** | **% In** | **% Below** | **Size Hi phi** | **Size Lo phi** | **% In** | **% Below**
-0.5 | (1414.21) | 0 | 100 | 8.0 | (3.90) | 8.5 | (2.76) | 5.42 | 21.59
0.0 | (1000.00) | 0 | 100 | 8.5 | (2.76) | 9.0 | (1.95) | 4.76 | 16.17
0.5 | (707.10) | 0.01 | 100 | 9.0 | (1.95) | 9.5 | (1.38) | 4.05 | 11.41
1.0 | (500.00) | 0.3 | 99.99 | 9.5 | (1.38) | 10.0 | (0.98) | 3.22 | 7.36
1.5 | (353.55) | 0.54 | 99.69 | 10.0 | (0.98) | 10.5 | (0.69) | 2.26 | 4.15
2.0 | (250.00) | 0.56 | 99.15 | 10.5 | (0.69) | 11.0 | (0.49) | 1.32 | 1.88
2.5 | (176.78) | 0.63 | 98.6 | 11.0 | (0.49) | 11.5 | (0.35) | 0.52 | 0.57
3.0 | (125.00) | 0.76 | 97.96 | 11.0 | (0.35) | 12.0 | (0.24) | 0.05 | 0.05
3.5 | (88.39) | 1.67 | 97.6 | 12.0 | (0.24) | 12.5 | (0.17) | 0 | 0
4.0 | (62.50) | 4.15 | 96.29 | 13.0 | (0.17) | 13.5 | (0.12) | 0 | 0
4.5 | (44.19) | 7.54 | 92.14 | 13.5 | (0.17) | 13.5 | (0.086) | 0 | 0
5.0 | (31.25) | 10.4 | 84.6 | 13.5 | (0.086) | 14.0 | (0.061) | 0 | 0
5.5 | (22.10) | 11.48 | 74.2 | 13.5 | (0.061) | 14.5 | (0.043) | 0 | 0
6.0 | (15.63) | 10.85 | 62.72 | 14.0 | (0.061) | 15.0 | (0.030) | 0 | 0
6.5 | (11.05) | 9.39 | 51.87 | 14.5 | (0.043) | 15.0 | (0.020) | 0 | 0
7.0 | (7.81) | 7.95 | 42.47 | 15.0 | (0.030) | 15.5 | (0.020) | 0 | 0
7.5 | (5.52) | 6.86 | 34.52 | 15.0 | (0.030) | 15.5 | (0.020) | 0 | 0
8.0 | (3.90) | 6.08 | 27.66 | 15.0 | (0.030) | 15.5 | (0.020) | 0 | 0

Notes:
- **d (0.9) : 55.655 um**
- **d (0.5) : 14.648 um**
- **d (0.1) : 1.743 um**

---

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 336
### Grain-Size Analysis Report

<table>
<thead>
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<th>Sample:</th>
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<tr>
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<tr>
<td>Cruise:</td>
<td>DAMOS</td>
</tr>
<tr>
<td>SOP Name:</td>
<td>DAMOS</td>
</tr>
<tr>
<td>Measured:</td>
<td>Julie</td>
</tr>
<tr>
<td>Measured:</td>
<td>Thursday, August 06, 2009 11:48:49 AM</td>
</tr>
</tbody>
</table>

#### Particle Name: Fraunhofer

<table>
<thead>
<tr>
<th>Dispersant Name: Water</th>
<th>Particle Size Distribution</th>
</tr>
</thead>
</table>

#### Dispersant RI: Water

<table>
<thead>
<tr>
<th>Size Hi</th>
<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>phi</td>
<td>um</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

#### Inclusive SD (Sorting Coeff.) = 1.89 phi (Poorly Sorted)

<table>
<thead>
<tr>
<th>Inclusive Kurtosis = .9 phi (Mesokurtic)</th>
</tr>
</thead>
</table>

#### Inclusive Skewness = -0.23 (Coarse Skewed)

<table>
<thead>
<tr>
<th>Inclusive Mean = 6.47 phi (Silt)</th>
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</table>

### Particle Size Distribution

#### Obscuration :

<table>
<thead>
<tr>
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<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>phi</td>
<td>um</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:

- d (0.1) : 1.675 um
- d (0.5) : 13.801 um
- d (0.9) : 50.064 um

---

**Notes:**

- 
  - **d (0.9) : 50.064 um**
  - **d (0.5) : 13.801 um**
  - **d (0.1) : 1.675 um**

---

**Malvern Instruments Ltd.**

**Malvern, UK**

**Mastersizer 2000 Ver. 5.22**

**Serial Number : MAL101534**

**Record Number: 340**

**File name: DAMOS.mea**

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**03-2-J - Average, Thursday, August 06, 2009 11:48:49 AM**
Grain-Size Analysis Report

Sample: 04-1-A - Average
Source: USGS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water

Particle Hi: 46.97um = 4.41phi
Dispersant Hi: 12.08um = 6.37phi
Kurtosis = 49.31
Skewness = 6.72
Standard Deviation = 167.95 um = 2.57phi

Inclusive SD (Sorting Coeff.) = 2.03 phi (Very Poorly Sorted)
Inclusive Skewness = -0.11 (Coarse Skewed)
Inclusive Mean = 6.56 phi (Silt)

USGS
% Clay (0-2 um) = 13.43
% Fine Silt (2-3.9 um) = 11.23
\[ d(0.1) : 1.563 \text{ um} \]
\[ d(0.5) : 12.081 \text{ um} \]

Wentworth
% Clay (0-3.9 um) = 24.66
% Silt (3.91-31 um) = 51.94
% Coarse Silt (31 - 62.5 um) = 14.4
% Very Fine sand (62.5 - 125 um) = 5.18
% Fine sand (125-250 um) = .84
% Medium sand (250-500 um) = .38
% Coarse sand (500-1000 um) = 1.5
% Very Coarse sand (1000 - 2000 um) = 1.1

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 428
Grain-Size Analysis Report

Sample: 04-1-B - Average
Source: USGS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water
Dispersant RI: 0.000
Absorption: 0
Obscuration: 15.14

D[4,3] = 54.25um = 4.2phi
d (0.1) : 1.675 um
D[0.5] = 1.06um = 8.89phi
D[0.16] = 2.56um = 8.61phi

Inclusive SD (Sorting Coeff.) = 2.03 phi (Very Poorly Sorted)
Inclusive Skewness = -0.11 (Coarse Skewed)
Inclusive Kurtosis = .99 phi (Mesokurtic)

USGS
% Clay (0-2 um) = 12.36
% Fine Silt (2-3.9 um) = 10.75
% Clay (0.9-3.9 um) = 23.11
% Silt (3.91-31 um) = 53.04
% Coarse Silt (31 - 62.5 um) = 14.56
% Very Fine sand (62.5 - 125 um) = 4.74
% Fine sand (125-250 um) = 1.04
% Medium sand (250-500 um) = .35
% Coarse sand (500-1000 um) = 1.61
% Very Coarse sand (1000 - 2000 um) = 1.55

Notes:

d (0.5) : 12.852

04-1-B - Average, Friday, August 07, 2009 10:28:32 AM
Grain-Size Analysis Report

Sample: 04-1-C - Average
Source: USGS
Cruise: DAMOS

Particle Name: Fraunhofer
Particle RI: 0.000
Absorption: 0
Obscuration: 13.81

Dispersant Name: Water
Dispersant RI: 1.330

D[4,3] = 40.47um = 4.63phi
D[v,0.5] = 12.25um = 6.35phi
Kurtosis = 66.79

Inclusive SD (Sorting Coeff.) = 1.99 phi (Poorly Sorted)
Inclusive Kurtosis = .96 phi (Mesokurtic)
Inclusive Mean = 6.54 phi (Silt)

USGS
% Clay (0-2 um) = 12.69
% Fine Silt (2-3.9 um) = 11.09

Wentworth
% Clay (0-3.9 um) = 23.77
% Silt (3.91-31 um) = 53.58
% Fine sand (125-250 um) = 1.24
% Medium sand (250-500 um) = .83
% Coarse sand (500-1000 um) = .67
% Very Coarse sand (1000-2000 um) = .67

Skewness = 7.63

Inclusive Skewness = -0.12 (Coarse Skewed)
Inclusive Mean = 6.54 phi (Silt)

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 436
### Grain-Size Analysis Report

<table>
<thead>
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<tbody>
<tr>
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<td>DAMOS</td>
</tr>
<tr>
<td>Cruise:</td>
<td>DAMOS</td>
</tr>
</tbody>
</table>

#### Particle Size Distribution

![Particle Size Distribution Graph](#)

- **USGS**
  - % Clay (0-2 um) = 12.87
  - % Fine Silt (2-3.9 um) = 11.13

- **Wentworth**
  - % Clay (0-3.9 um) = 24
  - % Silt (3.91-31 um) = 53.26
  - % Coarse Silt (31 - 62.5 um) = 13.96
  - % Very Fine sand (62.5 - 125 um) = 5.06
  - % Fine sand (125-250 um) = 1.31
  - % Medium sand (250-500 um) = .57
  - % Coarse sand (500-1000 um) = 1.16
  - % Very coarse sand (1000 - 2000 um) = .68

#### Particle Name and Dispersant Details

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Fraunhofer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispersant Name:</td>
<td>Water</td>
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<tr>
<td>Particle RI:</td>
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<td>Dispersant RI:</td>
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#### Particle Size and Sorting

<table>
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<td>7.5</td>
<td>8.0</td>
<td>0.5</td>
<td>89.71</td>
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</table>

#### Notes:

- **Kurtosis** = .96 phi (Mesokurtic)
- **Skewness** = -0.11 (Coarse Skewed)
- **Mean** = 6.55 phi (Silt)
- **Inclusive SD (Sorting Coeff.)** = 2 phi (Very Poorly Sorted)
- **Inclusive Kurtosis** = .96 phi (Mesokurtic)

---

**Malvern Instruments Ltd.**

**Mastersizer 2000 Ver. 5.22**

**Serial Number : MAL101534**

**Record Number: 444**

**File name: DAMOS.mea**
Grain-Size Analysis Report

Sample: 04-1-F - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Julie
Measured: Friday, August 07, 2009 10:47:47 AM

Particle Name: Dispersant Name: Particle RI: Dispersant RI: Inclusive SD (Sorting Coeff.) = 1.97 phi (Poorly Sorted) Inclusive Kurtosis = .96 phi (Mesokurtic) Inclusive Skewness = -0.12 (Coarse Skewed) Inclusive Mean = 6.57 phi (Silt)

<table>
<thead>
<tr>
<th>Size Hi</th>
<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
<th>Size Hi</th>
<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
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<td>phi</td>
<td>um</td>
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<td>um</td>
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Notes:

- Inclusive Kurtosis = 0.96 phi (Mesokurtic)
- Inclusive Skewness = -0.12 (Coarse Skewed)
- Inclusive Mean = 6.57 phi (Silt)

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 448
Grain-Size Analysis Report

Sample: 04-1-G - Average
Source: USGS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water

<table>
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<tr>
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<th>um</th>
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<tr>
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<td>(3.90)</td>
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Notes:

Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
Record Number: 452

File name: DAMOS.mea
Grain-Size Analysis Report

Sample: 04-1-H - Average
Source: Damos
Cruise: Damos

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
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<tbody>
<tr>
<td>Fraunhofer</td>
<td>Water</td>
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</table>

<table>
<thead>
<tr>
<th>Particle RI:</th>
<th>Absorption:</th>
<th>Obscuration:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000</td>
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<td></td>
</tr>
<tr>
<td>1.330</td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D[4,3] = 65.68um = 3.93phi</th>
<th>D[v,0.5] = 12.34um = 6.34phi</th>
<th>D[v,0.05] = 1.05um = 8.9phi</th>
<th>D[v,0.16] = 2.52um = 8.63phi</th>
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</thead>
<tbody>
<tr>
<td>D[v,0.16] = 2.52um = 8.63phi</td>
<td>D[v,0.95] = 361.27um = 1.47phi</td>
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<table>
<thead>
<tr>
<th>Kurtosis = 28.67</th>
<th>Skewness = 5.1</th>
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<tbody>
<tr>
<td>Inclusive SD (Sorting Coeff.) = 2.33 phi (Very Poorly Sorted)</td>
<td>Inclusive Mean = 6.46 phi (Silt)</td>
</tr>
<tr>
<td>Inclusive Kurtosis = 1.21 phi (Leptokurtic)</td>
<td>Inclusive Skewness = .04 (Near Symmetrical)</td>
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USGS
% Clay (0-2 um) = 12.55
% Fine Silt (2-3.9 um) = 10.97
% Silt (3.91-31 um) = 51.87
% Coarse Silt (31-62.5 um) = 12.31
% Fine Sand (62.5-125 um) = 4.26
% Medium Sand (250-500 um) = 1.88
% Coarse Sand (1000-2000 um) = 1.53
% Very Fine Sand (62.5-125 um) = 4.62
% Very Coarse Sand (1000-2000 um) = 1.53

Note: The data was collected using a Malvern Mastersizer 2000 Ver. 5.22 instrument with Serial Number MAL101534. The file name is DAMOS.mea.

---

Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
Record Number: 456
Grain-Size Analysis Report

Sample: 04-1-I - Average  Source: USGS  Cruise: DAMOS
SOP Name: DAMOS  Measured by: Julie  Measured: Friday, August 07, 2009 11:01:19 AM

Particle Name: Fraunhofer  Dispersant Name: Water
Particle RI: 0.000  Dispersant RI: 1.330
Absorption: 0  Obscuration: 12.48

D[4,3] = 43um = 4.54phi  D[v,0.5] = 12.26um = 6.35phi  Kurtosis = 55.46
D[v,0.05] = 1.04um = 9.91phi  D[v,0.84] = 44.12um = 4.5phi  Skewness = 6.8
D[v,0.16] = 2.5um = 8.64phi  D[v,0.95] = 134.23um = 2.9phi  Standard Deviation = 131.24 um = 2.93phi

Inclusive SD (Sorting Coeff.) = 2.1 phi (Very Poorly Sorted)  Inclusive Skewness = -0.06 (Near Symmetrical)
Inclusive Kurtosis = 1.01 phi (Mesokurtic)  Inclusive Mean = 6.5 phi (Silt)

USGS
% Clay (0-2 um) = 12.66  % Clay (0-3.9 um) = 23.68  % Fine sand (125-250 um) = 1.85
% Fine Silt (2-3.9 um) = 11.01  % Silt (3.91-31 um) = 52.28  % Medium sand (250-500 um) = 1.45
% Coarse Silt (31 - 62.5 um) = 13.61  % Coarse sand (500-1000 um) = 1.47
% Very Fine sand (62.5 - 125 um) = 5.17  % Very Coarse sand (1000 - 2000 um) = .49

Wentworth
\( d (0.1) : 1.642 \) \( \mu m \)  \( d (0.5) : 12.256 \)  \( d (0.9) : 64.764 \)

Notes:

Malvern Instruments Ltd.  Mastersizer 2000 Ver. 5.22  File name: DAMOS.mea
Malvern, UK  Serial Number: MAL101534  Record Number: 460
Grain-Size Analysis Report

Sample: 05-1-A - Average
Source: DAMOS
Crui se: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water

Particle RI: 0.000
Dispersant RI: 1.330

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<th>Size Hi (um)</th>
<th>Size Lo (um)</th>
<th>% Inclusive</th>
<th>% Below</th>
<th>Size Hi (phi)</th>
<th>Size Lo (phi)</th>
<th>% Inclusive</th>
<th>% Below</th>
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Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 104
 Grain-Size Analysis Report

Sample: 05-1-B - Average
Source: Malvern Instruments Ltd.
Cruise: DAMOS

Notes:

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D[0.5] = 57.21um = 4.13phi
D[0.65] = 87um = 10.01phi
D[0.16] = 2.37um = 8.72phi

Inclusive SD (Sorting Coeff.) = 2.14 phi (Very Poorly Sorted) Inclusive Skewness = -0.19 (Coarse Skewed) Inclusive Mean = 6.34 phi (Silt)

USGS
- % Clay (0-2 um) = 13.6
- % Fine Silt (2-3.9 um) = 9.94

Wentworth
- % Clay (0-3.9 um) = 23.53
- % Silt (3.91-31 um) = 45.9
- % Coarse Silt (31-62.5 um) = 18.6
- % Very Fine Sand (62.5-125 um) = 7.96

USGS
- D(0.1) : 1.521 um
- D(0.5) : 15.253
- D(0.9) : 69.298

Wentworth
- D(0.1) : (0.030)
- D(0.5) : (0.086)
- D(0.9) : (0.17)

Notes:
Grain-Size Analysis Report

Sample: 05-1-C - Average
Source: USGS
Cruise: DAMOS

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\[ D[4,3] = 43.13 \text{ um} = 4.54 \text{ phi} \]
\[ D[v,0.5] = 16.76 \text{ um} = 5.9 \text{ phi} \]
\[ D[v,0.05] = 78.95 \text{ um} = 4.08 \text{ phi} \]
\[ D[v,0.16] = 7.71 \text{ phi} = 3.03 \text{ phi} \]

Inclusive SD (Sorting Coeff.) = 1.83 phi (Poorly Sorted)
Inclusive Skewness = 0.03 (Near Symmetrical)
Inclusive Kurtosis = 1.01 phi (Mesokurtic)

Inclusive Mean = 5.9 phi (Silt)

USGS
\% Clay (0-2 \text{ um}) = 5.9
\% Fine Silt (2-3.9 \text{ um}) = 6.74
\% Coarse Silt (31 - 62.5 \text{ um}) = 17.29
\% Very Fine sand (62.5 - 125 \text{ um}) = 9.95
\% Medium sand (250-500 \text{ um}) = .88
\% Fine sand (125-250 \text{ um}) = 2.62
\% Coarse sand (500-1000 \text{ um}) = .9
\% Very Coarse sand (1000 - 2000 \text{ um}) = .4

\[ d (0.1) : 3.179 \text{ um} \]
\[ d (0.5) : 16.761 \text{ um} \]

Notes:

05-1-C - Average, Tuesday, August 04, 2009 3:38:36 PM
Sample Name : 05-1-D - Average
Sample bulk lot ref : 
Sample source :
Particle Size Distribution
Particle name : Fraunhofer
Particle refractive index : 0.000
Obscuration : 20.76
Stirrer speed : 600
Pump speed : 1500

---

Results Report

Tuesday, August 04, 2009 3:43:40 PM
Operator name : Julie

Sample Name : 05-1-D - Average, Tuesday, August 04, 2009 3:43:40 PM

---

Particle Size Distribution

---

Size (µm) | Volume In %
---|---
0.010 | 0.00
0.011 | 0.00
0.013 | 0.00
0.015 | 0.00
0.017 | 0.00
0.020 | 0.00
0.023 | 0.00
0.026 | 0.00
0.030 | 0.00
0.035 | 0.00
0.040 | 0.00
0.046 | 0.01
0.052 | 0.01
0.060 | 0.00
0.069 | 0.00
0.079 | 0.00

Size (µm) | Volume In %
---|---
0.079 | 0.00
0.091 | 0.00
0.105 | 0.00
0.120 | 0.00
0.138 | 0.00
0.158 | 0.00
0.182 | 0.00
0.209 | 0.00
0.240 | 0.00
0.275 | 0.00
0.316 | 0.00
0.363 | 0.00
0.417 | 0.00
0.479 | 0.00
0.550 | 0.00
0.631 | 0.00

Size (µm) | Volume In %
---|---
0.102 | 0.02
0.124 | 0.02
0.160 | 0.02
0.196 | 0.02
0.248 | 0.02
0.314 | 0.02
0.404 | 0.02
0.516 | 0.02
0.656 | 0.02
0.834 | 0.02
1.060 | 0.02
1.335 | 0.02
1.670 | 0.02
2.116 | 0.02
2.749 | 0.02
3.520 | 0.02
4.500 | 0.02
5.715 | 0.02
7.215 | 0.02
9.040 | 0.02
11.200 | 0.02
13.740 | 0.02
16.710 | 0.02
20.190 | 0.02
24.220 | 0.02
29.010 | 0.02
34.670 | 0.02
41.270 | 0.02
49.060 | 0.02
58.250 | 0.02
69.180 | 0.02
81.930 | 0.02
96.670 | 0.02
113.400 | 0.02
132.630 | 0.02
155.000 | 0.02
181.600 | 0.02
211.700 | 0.02
246.600 | 0.02
287.300 | 0.02
334.800 | 0.02
390.200 | 0.02
453.700 | 0.02
530.000 | 0.02
620.000 | 0.02
727.000 | 0.02
852.000 | 0.02
1000.000 | 0.02

---

Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534

File name: DAMOS.mea
Record Number: 116
Grain-Size Analysis Report

Sample: 05-1-E - Average
Source: Malvern Instruments Ltd.
Cruise: DAMOS

Inclusive Kurtosis = .99 phi (Mesokurtic)
Inclusive SD (Sorting Coeff.) = 1.84 phi (Poorly Sorted)

D[4,3] = 36.9um = 4.76phi
D[v,0.5] = 16.27um = 5.94phi
D[v,0.05] = 1.53um = 9.35phi
D[v,0.16] = 4.36um = 7.84phi
D[v,0.95] = 104.19um = 3.26phi
Kurtosis = 126.43
Skewness = 10.13
Standard Deviation = 96.84 um = 3.37phi

Inclusive Skewness = -0.08 (Near Symmetrical)
Inclusive Mean = 5.99 phi (Silt)

USGS
% Clay (0-2 um) = 6.95
% Fine Silt (2-3.9 um) = 7.29
% Clay (0-3.9 um) = 14.24
% Silt (3.91-31 um) = 54.72
% Coarse Silt (31 - 62.5 um) = 17.76
% Very Fine sand (62.5 - 125 um) = 9.94

Wentworth
% Fine sand (125-250 um) = 2.2
% Medium sand (250-500 um) = .26
% Coarse sand (500-1000 um) = .57
% Very Coarse sand (1000 - 2000 um) = .31

Notes:

---

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 120
Grain-Size Analysis Report

Sample: 05-1-F - Average
Source: USGS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water

<table>
<thead>
<tr>
<th>Size Hi</th>
<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
<th>Size Hi</th>
<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>phi</td>
<td>um</td>
<td>phi</td>
<td>um</td>
<td>phi</td>
<td>um</td>
<td>phi</td>
<td>um</td>
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<td>-1</td>
<td>(2000.00)</td>
<td>-0.5</td>
<td>(1414.21)</td>
<td>0.14</td>
<td>100</td>
<td>8.0</td>
<td>(3.90)</td>
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<tr>
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<td>(1000.00)</td>
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<td>(1000.00)</td>
<td>0.5</td>
<td>(707.10)</td>
<td>0.28</td>
<td>99.61</td>
<td>9.0</td>
<td>(1.95)</td>
</tr>
<tr>
<td>0.5</td>
<td>(707.10)</td>
<td>1.0</td>
<td>(500.00)</td>
<td>0.26</td>
<td>93.30</td>
<td>10.0</td>
<td>(0.98)</td>
</tr>
<tr>
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<td>(500.00)</td>
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<td>(353.55)</td>
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<tr>
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<td>98.24</td>
<td>10.5</td>
<td>(0.69)</td>
</tr>
<tr>
<td>2.0</td>
<td>(250.00)</td>
<td>2.5</td>
<td>(176.78)</td>
<td>0.46</td>
<td>98.8</td>
<td>11.0</td>
<td>(0.49)</td>
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<tr>
<td>2.5</td>
<td>(176.78)</td>
<td>3.0</td>
<td>(125.00)</td>
<td>1.5</td>
<td>98.34</td>
<td>11.5</td>
<td>(0.35)</td>
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<tr>
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<td>(125.00)</td>
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<td>(88.39)</td>
<td>3.44</td>
<td>96.84</td>
<td>12.0</td>
<td>(0.24)</td>
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<tr>
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<td>(88.39)</td>
<td>4.0</td>
<td>(62.50)</td>
<td>5.79</td>
<td>93.39</td>
<td>12.5</td>
<td>(0.17)</td>
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<td>4.5</td>
<td>(44.19)</td>
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<td>(0.12)</td>
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<td>(31.25)</td>
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<td>(11.05)</td>
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<td>(0.030)</td>
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<td>(5.52)</td>
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<td>(3.90)</td>
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<tr>
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<td>(3.90)</td>
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<td></td>
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</tr>
</tbody>
</table>

Notes:

Obscuration : 24.25

- Inclusive SD (Sorting Coeff.) = 1.81 phi (Poorly Sorted)
- Inclusive Kurtosis = 1 phi (Mesokurtic)
- Inclusive Skewness = -0.06 (Near Symmetrical)
- Inclusive Mean = 6.04 phi (Silt)

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 124
Grain-Size Analysis Report

Sample: 05-1-G - Average
Source: USGS
Cruise: DAMOS

### Particle Size Distribution

<table>
<thead>
<tr>
<th>Size Hi (um)</th>
<th>Size Lo (um)</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
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<td>0.01</td>
<td>0.01</td>
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<td>0.0</td>
</tr>
<tr>
<td>0.1</td>
<td>0.05</td>
<td>99.5</td>
<td>0.5</td>
</tr>
<tr>
<td>1.0</td>
<td>0.1</td>
<td>98.6</td>
<td>1.4</td>
</tr>
<tr>
<td>2.0</td>
<td>0.2</td>
<td>97.7</td>
<td>2.3</td>
</tr>
<tr>
<td>4.0</td>
<td>0.5</td>
<td>96.0</td>
<td>3.9</td>
</tr>
<tr>
<td>8.0</td>
<td>1.0</td>
<td>94.1</td>
<td>5.9</td>
</tr>
<tr>
<td>16.0</td>
<td>2.0</td>
<td>92.2</td>
<td>7.8</td>
</tr>
<tr>
<td>32.0</td>
<td>4.0</td>
<td>90.3</td>
<td>9.7</td>
</tr>
<tr>
<td>64.0</td>
<td>8.0</td>
<td>88.5</td>
<td>11.5</td>
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<tr>
<td>128.0</td>
<td>16.0</td>
<td>86.7</td>
<td>13.3</td>
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<td>256.0</td>
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<td>84.9</td>
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<tr>
<td>512.0</td>
<td>64.0</td>
<td>83.1</td>
<td>16.9</td>
</tr>
<tr>
<td>1024.0</td>
<td>128.0</td>
<td>81.3</td>
<td>18.7</td>
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<tr>
<td>8192.0</td>
<td>1024.0</td>
<td>76.0</td>
<td>25.0</td>
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</table>

Notes:

Malvern Instruments Ltd.
Malvern, UK

File name: DAMOS.mea
Record Number: 128
Grain-Size Analysis Report

Sample: 05-1-H - Average
Source: DAMOS
Cruise: DAMOS

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Absorption:</th>
<th>Obscuration:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000</td>
<td>Water</td>
<td>0.000</td>
<td>0</td>
<td>26.49</td>
</tr>
</tbody>
</table>

\[
\begin{align*}
D[4,3] & = 54.5\text{um} = 4.2\text{phi} \\
D[v,0.5] & = 13.68\text{um} = 6.19\text{phi} \\
D[v,0.16] & = 2.35\text{um} = 8.73\text{phi}
\end{align*}
\]

Kurtosis = 39.25
Skewness = 6.07
Inclusive Kurtosis = .89 phi (Platykurtic)
Inclusive Mean = 6.45 phi (Silt)

USGS
% Clay (0-2 um) = 13.63
% Fine Silt (2-3.9 um) = 10.56
% Medium sand (250-500 um) = .28
% Very Fine sand (62.5-125 um) = 6.13
% Very Coarse sand (1000-2000 um) = 1.51
% Fine sand (125-250 um) = .25

Wentworth
% Clay (0-3.9 um) = 24.18
% Silt (3.91-31 um) = 48.76
% Coarse Silt (31 - 62.5 um) = 17.18
% Very Fine sand (62.5 - 125 um) = 6.13
% Coarse sand (500-1000 um) = 1.69
% Very Fine sand (125-250 um) = .25
% Medium sand (250-500 um) = .28
% Very Coarse sand (1000 - 2000 um) = 1.51

Notes:

- d (0.1) : 1.529 um
- d (0.5) : 13.685 um
- d (0.9) : 62.046 um

- d (0.1) : 62.046
- d (0.5) : 13.685
- d (0.9) : 62.046

- 0.01  0.1  1  10  100  1000  3000
- Volume (%)
- Particle Size (µm)

- 0.000  0.1  1  10  100  1000  3000
- Size Hi
- Size Lo
- % In
- % Below

- 0.000  0.1  1  10  100  1000  3000
- Size Hi
- Size Lo
- % In
- % Below

Notes:

05-1-H - Average, Tuesday, August 04, 2009 4:05:35 PM
**Grain-Size Analysis Report**

**Sample:** 05-2-A - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Fraunhofer</th>
<th>Particle RI:</th>
<th>0.000</th>
<th>Absorption:</th>
<th>0</th>
<th>Obscuration:</th>
<th>13.26</th>
</tr>
</thead>
</table>

**Dispersant Name:** Water  
**Dispersant RI:** 1.330

\[ D_{[4,3]} = 63.34 \text{ um} = 3.98 \text{ phi} \]
\[ D_{[v,0.5]} = 13.72 \text{ um} = 6.19 \text{ phi} \]
\[ D_{[v,0.16]} = 2.57 \text{ um} = 8.61 \text{ phi} \]
\[ D_{[v,0.05]} = 1.97 \text{ um} = 7.73 \text{ phi} \]
\[ D_{[v,0.01]} = 1.37 \text{ um} = 8.61 \text{ phi} \]

- **Inclusive SD (Sorting Coeff.)** = 2.13 phi (Very Poorly Sorted)
- **Inclusive Kurtosis** = 1.03 phi (Mesokurtic)
- **Inclusive Mean** = 6.41 phi (Silt)

**USGS**

- % Clay (0-2 um) = 12.38
- % Fine Silt (2-3.9 um) = 10.44

**Wentworth**

- % Clay (0-3.9 um) = 22.82
- % Silt (3.91-31 um) = 51.15
- % Coarse Silt (31-62.5 um) = 15.09
- % Very Fine sand (62.5-125 um) = 5.24
- % Fine sand (125-250 um) = 1.9
- % Medium sand (250-500 um) = .37
- % Coarse sand (500-1000 um) = .96
- % Very Coarse sand (1000 - 2000 um) = 2.46

**Notes:**

- **Malvern Instruments Ltd.**
- **Mastersizer 2000 Ver. 5.22**
- **Serial Number : MAL101534**
- **Record Number: 388**
- **File name: DAMOS.mea**

---

**Notes:**

- **d (0.1) : 1.671**  
  **um**
- **d (0.5) : 13.719**  
  **d (0.9) : 67.382**
### Grain-Size Analysis Report

**Sample:** 05-2-B - Average  
**Source:**  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Julie  
**Measured:** Friday, August 07, 2009 9:43:03 AM  

<table>
<thead>
<tr>
<th>Particle Name</th>
<th>Dispersant Name</th>
<th>Particle RI</th>
<th>Absorption</th>
<th>Dispersant RI</th>
<th>Obscuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse Silt (31 - 62.5 um)</td>
<td>15.39</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Fine sand (62.5 - 125 um)</td>
<td>0.65</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Deviation = 193.46 um = 2.37 phi</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Clay (0-2 um) = 12.25</td>
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<td></td>
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<tr>
<td>% Fine Silt (2-3.9 um) = 10.25</td>
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<td></td>
</tr>
<tr>
<td>% Clay (0-3.9 um) = 22.5</td>
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</tr>
<tr>
<td>% Silt (3.91-31 um) = 50.22</td>
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</tr>
<tr>
<td>% Coarse Silt (31 - 62.5 um) = 15.39</td>
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<tr>
<td>% Clay (0-3.9 um) = 22.5</td>
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<tr>
<td>% Silt (3.91-31 um) = 50.22</td>
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<tr>
<td>% Coarse Silt (31 - 62.5 um) = 15.39</td>
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</tr>
<tr>
<td>% Very Fine sand (62.5 - 125 um) = 5.99</td>
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<tr>
<td>USGS</td>
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<td></td>
</tr>
<tr>
<td>Wentworth</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Inclusive SD (Sorting Coeff.) = 2.15 phi (Very Poorly Sorted)**
- **Inclusive Skewness = -0.1 (Near Symmetrical)**
- **Inclusive Kurtosis = 1.02 phi (Mesokurtic)**

**Particle Size Distribution**

---

<table>
<thead>
<tr>
<th>Size Hi phi</th>
<th>Size Lo phi</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1 (2000.00)</td>
<td>-0.5 (1414.21)</td>
<td>0.52</td>
<td>100</td>
</tr>
<tr>
<td>-0.5 (1414.21)</td>
<td>0.0 (1000.00)</td>
<td>1.02</td>
<td>99.48</td>
</tr>
<tr>
<td>0.0 (1000.00)</td>
<td>0.5 (707.10)</td>
<td>1.06</td>
<td>98.46</td>
</tr>
<tr>
<td>0.5 (707.10)</td>
<td>1.0 (500.00)</td>
<td>0.65</td>
<td>97.4</td>
</tr>
<tr>
<td>1.0 (500.00)</td>
<td>1.5 (353.55)</td>
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<td>96.74</td>
</tr>
<tr>
<td>1.5 (353.55)</td>
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<td>2.0 (250.00)</td>
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<td>3.0 (125.00)</td>
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</tr>
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<td>81.82</td>
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<td>5.5 (22.10)</td>
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<td>43.59</td>
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<td>7.5 (5.52)</td>
<td>6.95</td>
<td>35.69</td>
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<td>7.5 (5.52)</td>
<td>8.0 (3.90)</td>
<td>6.21</td>
<td>28.74</td>
</tr>
</tbody>
</table>

**Notes:**

**Inclusive Mean = 6.36 phi (Silt)**

---

Malvern Instruments Ltd.  
Malvern, UK  
Mastersizer 2000 Ver. 5.22  
Serial Number : MAL101534  
File name: DAMOS.mea  
Record Number: 392
Grain-Size Analysis Report

Sample: 05-2-C - Average
Source: DAMOS
Crui: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water
Particle RI: 0.000
Dispersant RI: 1.330
Absorption: 0

% Coarse Silt (31 - 62.5 um) = 16.82
% Very Fine sand (62.5 - 125 um) = 1.51
% Fine sand (125-250 um) = 1.51
% Medium sand (250-500 um) = 0.35
% Coarse sand (500-1000 um) = 0.7
% Very Coarse sand (1000 - 2000 um) = 0.17

D[4,3] = 41.18um = 4.6phi
D[v,0.5] = 14.33um = 6.12phi
Kurtosis = 72.21
Skewness = 7.99
Standard Deviation = 136.66 um = 2.8phi

Inclusive Mean = 6.38 phi (Silt)

Notes:

Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 396

Friday, August 07, 2009 9:47:36 AM
**Grain-Size Analysis Report**

**Sample:** 05-2-D - Average  
**Source:** Damos  
**Cruise:** Damos  
**SOP Name:** DAMOS  
**Measured by:** Julie  
**Measured:** Friday, August 07, 2009 9:52:50 AM

### Particle Size Distribution

<table>
<thead>
<tr>
<th>Size Hi (um)</th>
<th>Size Lo (um)</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000.00</td>
<td>1414.21</td>
<td>0.24</td>
<td>100</td>
</tr>
<tr>
<td>1000.00</td>
<td>1000.00</td>
<td>0.5</td>
<td>99.76</td>
</tr>
<tr>
<td>707.10</td>
<td>707.10</td>
<td>0.55</td>
<td>99.26</td>
</tr>
<tr>
<td>500.00</td>
<td>500.00</td>
<td>0.39</td>
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<td>0.3</td>
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<td>3.29</td>
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<td>85.99</td>
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<tr>
<td>3.90</td>
<td>3.90</td>
<td>6.32</td>
<td>29.01</td>
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</tbody>
</table>

### Obscuration

- **D4.3** = 38.8um = 4.69phi  
- **Dv,0.5** = 13.6um = 6.2phi  
- **Dv,0.16** = 2.58um = 8.6phi

- **Kurtosis** = 75.24  
- **Skewness** = 8.22  
- **Mean Volume** = 6.47 phi (Silt)

### Particle Name: Fraunhofer  
**Dispersant Name:** Water  
**Dispersant RI:** 0.000  
**Absorption:** 0  
**Obscuration:** 14.06

- **D4.3** = 38.8um = 4.69phi  
- **Dv,0.5** = 13.6um = 6.2phi  
- **Dv,0.16** = 2.58um = 8.6phi

- **Kurtosis** = 75.24  
- **Skewness** = 8.22  
- **Mean Volume** = 6.47 phi (Silt)

Notes:

- Malvern Instruments Ltd.  
- Mastersizer 2000 Ver. 5.22  
- Serial Number: MAL101534  
- File name: DAMOS.mea  
- Record Number: 400
Grain-Size Analysis Report

Sample: 05-2-E - Average
Source: USGS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Julie
Measured: Friday, August 07, 2009 9:57:20 AM

Particle Name: Fraunhofer
Dispersant Name: Water

<table>
<thead>
<tr>
<th>Particle Size (µm)</th>
<th>Volume (%)</th>
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<tbody>
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<td>1</td>
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<tr>
<td>0.1</td>
<td>2</td>
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<tr>
<td>0.5</td>
<td>3</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>100</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Size Hi</th>
<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>phi</td>
<td>um</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-1</td>
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<td>100</td>
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<td>(1414.21)</td>
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<td>99.71</td>
</tr>
<tr>
<td>0.0</td>
<td>(1000.00)</td>
<td>0.58</td>
<td>99.14</td>
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<td>(707.10)</td>
<td>0.37</td>
<td>98.56</td>
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<tr>
<td>1.0</td>
<td>(500.00)</td>
<td>0.09</td>
<td>98.19</td>
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<tr>
<td>1.5</td>
<td>(353.55)</td>
<td>0.03</td>
<td>98.07</td>
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</tr>
<tr>
<td>2.5</td>
<td>(176.78)</td>
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<td>97.38</td>
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<td>(125.00)</td>
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<td>(88.39)</td>
<td>0.57</td>
<td>97.09</td>
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<tr>
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</tr>
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<td>92.08</td>
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<td>8.0</td>
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<td>29.67</td>
</tr>
</tbody>
</table>

Notes:

- Inclusive SD (Sorting Coeff.) = 1.96 phi (Poorly Sorted)
- Inclusive Kurtosis = .93 phi (Mesokurtic)
- Inclusive Mean = 6.49 phi (Silt)

- Coarse Silt (31 - 62.5 um) = 15.89 phi
- Fine Silt (2-3.9 um) = 10.6 phi
- Clay (0-3.9 um) = 23.15 phi
- Silt (3.91-31 um) = 53.04 phi
- Obscuration : 14.64 phi

- Skewness = 8.05 phi (Coarse Skewed)
- Inclusive Kurtosis = .93 phi (Mesokurtic)

- Kurtosis = 71.11 phi
- Skewness = 8.05 phi
- D[4,3] = 39.83um = 4.65phi
- D[v,0.5] = 13.18um = 6.25phi
- D[v,0.05] = 1.05um = 8.9phi
- D[v,0.16] = 2.53um = 8.63phi
- D[v,0.95] = 82.24um = 3.6phi
- Kurtosis = 2.78phi

- Standard Deviation = 145.57 um
- D[v,0.05] = 1.05um = 9.9phi
- D[v,0.16] = 2.53um = 9.5phi
- D[v,0.95] = 82.24um = 8.5phi
- D[v,0.99] = 582.2um = 4.9phi

Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 404
### Grain-Size Analysis Report

**Sample:** 05-2-F - Average  
**Source:** USGS  
**Cruise:** DAMOS  

#### Particle Size Distribution

![Particle Size Distribution Graph](image)

#### Table

<table>
<thead>
<tr>
<th>Particle Size Distribution</th>
<th>Volume (%)</th>
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<tbody>
<tr>
<td>0.01</td>
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<td>0.1</td>
<td>0</td>
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<td>10</td>
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<tr>
<td>3000</td>
<td>80</td>
</tr>
<tr>
<td>5</td>
<td>100</td>
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</table>

#### Size Distribution

<table>
<thead>
<tr>
<th>Size Hi</th>
<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>phi</td>
<td>um</td>
<td>phi</td>
<td>um</td>
</tr>
<tr>
<td>0.0</td>
<td>1.705</td>
<td>14.581</td>
<td>69.512</td>
</tr>
</tbody>
</table>

#### Inclusive Mean

- **Fine sand:** 2.05 phi
- **Medium sand:** 0.42 phi
- **Coarse sand:** 0.93 phi
- **Very coarse sand:** 0.63 phi
- **Clay:** 2.27 phi
- **Silt:** 4.96 phi
- **Very fine sand:** 7.67 phi

#### Obscuration

- USGS: 14.39 phi
- Wentworth: 14.39 phi

#### Absorption

- USGS: 14.39 phi

#### Skewness

- USGS: 8.25

#### Kurtosis

- USGS: 78.46

#### Mean

- USGS: 6.33 phi

#### Source: Unsaturated Sediment Pore Abris

#### Measured by: Julie

#### Measured:

Friday, August 07, 2009 10:01:58 AM

### Notes:

- **SOP Name:** DAMOS  
- **SOP Name:** Grainsize Analysis Report

---

**Notes:**

- **d (0.1) : 1.705 um**
- **d (0.5) : 14.581**
- **d (0.9) : 69.512**

---

Malvern Instruments Ltd.  
Malvern, UK  
Mastersizer 2000 Ver. 5.22  
Serial Number: MAL101534  
File name: DAMOS.mea  
Record Number: 408
Grain-Size Analysis Report

Sample: 05-2-G - Average
Source: USGS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water

<table>
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<tr>
<th>phi</th>
<th>um</th>
<th>Size Hi</th>
<th>size Lo</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
<tr>
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<td>8.0</td>
<td>(3.90)</td>
<td>5.64</td>
<td>26.26</td>
</tr>
</tbody>
</table>

Notes:

- Inclusive SD (Sorting Coeff.) = 2.21 phi (Very Poorly Sorted)
- Inclusive Skewness = -0.12 (Coarse Skewed)
- Inclusive Mean = 6.09 phi (Silt)

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.meas
Record Number: 412
Sample: 05-2-H - Average
Source: DAMOS
Cruiase: DAMOS

**Grain-Size Analysis Report**

**SOP Name:** DAMOS  
**Measured by:** Julie  
**Measured:** Friday, August 07, 2009 10:10:52 AM

**Table:**

<table>
<thead>
<tr>
<th>Dispersant Name:</th>
<th>Water</th>
<th>Particle Name:</th>
<th>Fraunhofer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispersant RI:</td>
<td>0.000</td>
<td>Absorption:</td>
<td>1.330</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Obscuration:</td>
<td>9.79</td>
</tr>
</tbody>
</table>

| D[4,3] = | 45.94um = 4.44phi | D[v,0.5] = | 16.63um = 5.91phi | Kurtosis = 68.43 |
| D[v,0.05] = | 1.15um = 9.76phi | D[v,0.84] = | 65.43um = 3.93phi | Skewness = 7.14 |
| D[v,0.16] = | 2.97um = 8.4phi | D[v,0.95] = | 170.21um = 2.55phi | Standard Deviation = 109.14 um = 3.2phi |

**Inclusive SD (Sorting Coeff.) = 2.21 phi (Very Poorly Sorted)**  
**Inclusive Kurtosis = .99 phi (Mesokurtic)**  
**Inclusive Mean = 6.08 phi (Silt)**

**USGS**

- % Clay (0-2 um) = 10.76
- % Fine Silt (2-3.9 um) = 9.34

**Wentworth**

- % Clay (0-3.9 um) = 20.1
- % Silt (3.91-31 um) = 47.38
- % Coarse Silt (31 - 62.5 um) = 15.75
- % Very Fine sand (62.5 - 125 um) = 9.06
- % Fine sand (125-250 um) = 4.91
- % Medium sand (250-500 um) = 1.6
- % Coarse sand (500-1000 um) = .9
- % Very Coarse sand (1000 - 2000 um) = .29

**Notes:**
Grain-Size Analysis Report

Sample: 05-2-1 - Average
Source: USGS
Cruise: Julie

| Particle Name: | Fraunhofer | Particle RI: 0.000 | Absorption: 0 | Obscuration: 18.41 |
| Dispersant Name: | Water | Dispersant RI: 1.330 | |

D[4,3] = 56.91um = 4.14phi
D[v,0.5] = 15.02um = 6.06phi
Kurtosis = 41.75
Skewness = 5.9
Standard Deviation = 158.29 um = 2.66phi

Inclusive SD (Sorting Coeff.) = 2.3 phi (Very Poorly Sorted)
Inclusive Skewness = -0.04 (Near Symmetrical)
Inclusive Kurtosis = 1.05 phi (Mesokurtic)

Inclusive Mean = 6.22 phi (Silt)

Notes:

- Size Hi (phi) um | Size Lo (phi) um | % In | % Below
- -1 (2000.00) | -0.5 (1414.21) | 0.22 | 100
-0.5 (1414.21) | 0.0 (1000.00) | 0.56 | 99.78
0.0 (1000.00) | 0.5 (707.10) | 0.87 | 99.22
0.5 (707.10) | 1.0 (500.00) | 0.98 | 98.35
1.0 (500.00) | 1.5 (353.55) | 0.97 | 97.37
1.5 (353.55) | 2.0 (250.00) | 1.14 | 96.4
2.0 (250.00) | 2.5 (176.78) | 1.58 | 95.26
2.5 (176.78) | 3.0 (125.00) | 2.1 | 93.68
3.0 (125.00) | 3.5 (88.39) | 2.82 | 91.57
3.5 (88.39) | 4.0 (62.50) | 4.14 | 88.75
4.0 (62.50) | 4.5 (44.19) | 6.22 | 84.61
4.5 (44.19) | 5.0 (31.25) | 8.38 | 78.4
5.0 (31.25) | 5.5 (22.10) | 9.56 | 70.02
5.5 (22.10) | 6.0 (15.63) | 9.43 | 60.46
6.0 (15.63) | 6.5 (11.05) | 8.57 | 51.03
6.5 (11.05) | 7.0 (7.81) | 7.61 | 42.47
7.0 (7.81) | 7.5 (5.52) | 6.81 | 34.85
7.5 (5.52) | 8.0 (3.90) | 6.13 | 28.05

- Size Hi (phi) um | Size Lo (phi) um | % In | % Below
- 8.0 (3.90) | 8.5 (2.76) | 5.51 | 21.92
8.5 (2.76) | 9.0 (1.95) | 4.86 | 16.41
9.0 (1.95) | 9.5 (1.38) | 4.12 | 11.56
9.5 (1.38) | 10.0 (0.98) | 3.25 | 7.44
10.0 (0.98) | 10.5 (0.69) | 2.27 | 4.19
10.5 (0.69) | 11.0 (0.49) | 1.32 | 1.91
11.0 (0.49) | 11.5 (0.35) | 0.53 | 0.59
11.5 (0.35) | 12.0 (0.24) | 0.05 | 0.05
12.0 (0.24) | 12.5 (0.17) | 0 | 0
12.5 (0.17) | 13.0 (0.12) | 0 | 0
13.0 (0.12) | 13.5 (0.086) | 0 | 0
13.5 (0.086) | 14.0 (0.061) | 0 | 0
14.0 (0.061) | 14.5 (0.043) | 0 | 0
14.5 (0.043) | 15.0 (0.030) | 0 | 0
15.0 (0.030) | 15.5 (0.020) | 0 | 0

Notes:
### Grain-Size Analysis Report

**Sample:** 05-2-J - Average  
**Source:**  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Julie  
**Measured:** Friday, August 07, 2009 10:19:45 AM

#### Particle Name: Fraunhofer  
#### Dispersant Name: Water  
#### Particle RI: 0.000  
#### Dispersant RI: 1.330  
#### Absorption: 0  
#### Obscuration: 15.91

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#### Particle Size Distribution

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**Notes:**

- Malvern Instruments Ltd.  
- Mastersizer 2000 Ver. 5.22  
- Serial Number: MAL101534  
- File name: DAMOS.mea  
- Record Number: 424
Grain-Size Analysis Report

Sample: 06-1-A - Average
Source: USGS
Cruise: DAMOS

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Dispersant Name: Water

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### Grain-Size Analysis Report

**Sample:** 06-1-C - Average  
**Source:** USGS  
**Cruise:** DAMOS

**Particle Name:** Fraunhofer  
**Dispersant Name:** Water  
**Particle RI:** 0.000  
**Dispersant RI:** 1.330  
**Absorption:** 0  
**Obscuration:** 11.75

**Inclusive SD (Sorting Coeff.) = 1.86 phi (Poorly Sorted)**  
**Inclusive Kurtosis = .93 phi (Mesokurtic)**  
**Inclusive Skewness = -0.24 (Coarse Skewed)**  
**Inclusive Mean = 6.4 phi (Silt)**

#### USGS

- **% Clay (0-2 um):** 11.43  
- **% Fine Silt (2-3.9 um):** 9.47  
- **% Medium Silt (3.91-31 um):** 54.71  
- **% Coarse Silt (31 - 62.5 um):** 18.28  
- **% Very Fine Sand (62.5 - 125 um):** 4.37  
- **% Fine Sand (125-250 um):** 0.01  
- **% Medium Sand (250-500 um):** 0.81  
- **% Coarse Sand (500-1000 um):** 0.82

#### Wentworth

- **% Clay (0-3.9 um):** 20.89  
- **% Silt (3.91-31 um):** 54.71  
- **% Coarse Silt (31 - 62.5 um):** 18.28  
- **% Very Fine Sand (62.5 - 125 um):** 4.37  
- **% Fine Sand (125-250 um):** 0.01  
- **% Medium Sand (250-500 um):** 0.89  
- **% Coarse Sand (500-1000 um):** 0.81  
- **% Very Coarse Sand (1000 - 2000 um):** 0.82

---

**Notes:**

**D[4,3] = 37.43um = 4.74phi**  
**D[3,2] = 14.57um = 6.1phi**  
**D[v,0.5] = 40.32um = 4.63phi**  
**D[v,0.95] = 67.66um = 3.89phi**  
**Kurtosis = 78.67**  
**Skewness = 8.52**  
**Inclusive Mean = 6.4 phi (Silt)**

---

**Malvern Instruments Ltd.**  
**Malvern, UK**  
**Mastersizer 2000 Ver. 5.22**  
**Serial Number: MAL101534**  
**File name: DAMOS.mea**  
**Record Number: 472**
Grain-Size Analysis Report

**Sample:** 06-1-D - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Julie  
**Measured:** Friday, August 07, 2009 11:26:48 AM

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<td>D[4,0.5] = 14.45um = 6.11phi</td>
<td>D[4,0.84] = 41.94um = 4.58phi</td>
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<td>Kurtosis = 93.16</td>
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<td>Inclusive SD (Sorting Coeff.) = 1.94 phi (Poorly Sorted)</td>
<td>Inclusive Skewness = -0.25 (Coarse Skewed)</td>
<td>Inclusive Mean = 6.44 phi (Silt)</td>
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**USGS**

| % Clay (0-2 um) = 0.127 | % Fine Silt (2-3.9 um) = 10.16 |
| % Clay (0.3-3.9 um) = 22.95 |
| % Silt (3.91-31 um) = 51.27 |
| % Coarse Silt (31 - 62.5 um) = 19.29 |
| % Very Fine sand (62.5 - 125 um) = 4.87 |

**Wentworth**

| % Fine sand (125-250 um) = 0 |
| % Medium sand (250-500 um) = 0.22 |
| % Coarse sand (500-1000 um) = 0.78 |
| % Very Coarse sand (1000 - 2000 um) = 0.63 |

**Notes:**

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**Notes:**
Grain-Size Analysis Report

Sample: 06-1-DM - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Julie
Measured: Friday, August 07, 2009 11:53:11 AM

Particle Name: Fraunhofer
Dispersant Name: Water
Dispersant RI: 1.330
Inclusive SD (Sorting Coeff.) = 2.38 phi (Very Poorly Sorted)

Inclusive Kurtosis = 1.61 phi (Very Leptokurtic)
Inclusive Mean = 7.7 phi (Silt)

USGS
% Clay (0-2 um) = 25.13
% Fine Silt (2-3.9 um) = 44.85
% Coarse Silt (31 - 62.5 um) = 2.84
% Very Fine silt (62.5 - 125 um) = .49

Wentworth
% Clay (0-3.9 um) = 45.22
% Silt (3.91-31 um) = 44.85
% Coarse Silt (31 - 62.5 um) = 2.84
% Very Fine sand (62.5 - 125 um) = .49
% Fine sand (125-250 um) = 0
% Medium sand (250-500 um) = .86
% Coarse sand (500-1000 um) = 3.21
% Very Coarse sand (1000 - 2000 um) = 2.52

D[4,3] = 68.01um = 3.88phi
D[v,0.5] = 4.53um = 7.78phi
Kurtosis = 20.49
Skewness = 4.47

D[4,3] = 30.69um
D[v,0.95] = 613.72um = .7phi
Kurtosis = 1.61 phi (Very Leptokurtic)
Skewness = .27 (Fine Skewed)

Inclusive Mean = 7.7 phi (Silt)

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 500
Grain-Size Analysis Report

Sample: 06-1-E - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Julie
Measured: Friday, August 07, 2009 11:31:10 AM

D[4,3] = 39.19um = 4.67phi
D[v,0.5] = 15.86um = 5.98phi
D[v,0.95] = 77.05um = 3.7phi
D[0.1] : 1.670
D[0.5] : 15.865
D[0.9] : 58.306

% Fine Silt (2-3.9 um) = 9.64
% Clay (0-2 um) = 12.27

Inclusive Kurtosis = .88 phi (Platykurtic)
Inclusive Sorting Coeff. = .98 phi (Poorly Sorted)
Inclusive Skewness = -0.26 (Coarse Skewed)
Inclusive Mean = 6.33 phi (Silt)

USGS
% Clay (0-2 um) = 12.27
% Fine Silt (2-3.9 um) = 9.64
% Silt (3.91-31 um) = 49.05
% Coarse Silt (31-62.5 um) = 20.53
% Very Fine sand (62.5-125 um) = 6.67
% Very Coarse sand (1000-2000 um) = .74
% Medium sand (250-500 um) = .19
% Coarse sand (500-1000 um) = .84
% Fine sand (125-250 um) = .07

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 480
Grain-Size Analysis Report

Sample: 06-1-F - Average

Source: DAMOS

Cruise: DAMOS

SOP Name: DAMOS

Measured: Friday, August 07, 2009 11:35:30 AM

Notes:

Particle Name: Fraunhofer

Dispersant Name: Water

Particle RI: 0.000

Dispersant RI: 1.330

Absorption: 0

Inclusive SD (Sorting Coeff.) = 1.98 phi (Poorly Sorted)

Wentworth

USGS

% Clay (0-2 um) = 11.64

% Fine Silt (2-3.9 um) = 9.24

% Silt (3.91-31 um) = 47.72

% Coarse Silt (31 - 62.5 um) = 21.84

% Very Fine sand (62.5 - 125 um) = 8.24

% Fine sand (125-250 um) = .23

% Medium sand (250-500 um) = .13

% Coarse sand (500-1000 um) = .59

% Very Coarse sand (1000 - 2000 um) = .37

Inclusive Kurtosis = .88 phi (Platykurtic)

Inclusive Mean = 6.23 phi (Silt)

Inclusive Kurswness = -0.28 (Coarse Skewed)

Inclusive Kurtosis = .99 phi (Silt)

Volume (%) of particles in different size ranges:

0.01  0.1  1  10  100  1000  3000

Particle Size Distribution

0  1  2  3  4  5

Particle Size (µm)

0.000  0.01  0.1  1  10  100  1000  3000

Notes:
Grain-Size Analysis Report

Sample: 06-1-G - Average  
Source: USGS  
Cruise: Julie  
SOP Name: DAMOS  
Measured by: Julie  
Measured: Friday, August 07, 2009 11:39:50 AM

Particle Name: Fraunhofer  
Dispersant Name: Water  
Particle RI: 0.000  
Dispersant RI: 1.330  
Absorption: 0  
Obscuration: 16.28

D[4,3] = 35.86 um = 4.8 phi
D[4,0.5] = 16.81 um = 5.9 phi
D[4,0.16] = 78.9 um = 3.66 phi

Kurtosis = 106.3
Skewness = 9.63
Inclusive Kurtosis = 0.88 phi (Platykurtic)
Inclusive Skewness = -0.28 (Coarse Skewed)
Inclusive Mean = 6.27 phi (Silt)

USGS
- % Clay (0-2 um) = 12.08
- % Fine Silt (2-3.9 um) = 9.44
- % Very Fine sand (500-1000 um) = 0.73

Wentworth
- % Silt (3.91-31 um) = 47.72
- % Coarse Silt (31-62.5 um) = 21.53
- % Very Fine sand (62.5-125 um) = 7.61

Notes:

06-1-G - Average, Friday, August 07, 2009 11:39:50 AM
Grain-Size Analysis Report

Sample: 06-1-H - Average
Source: USGS
Cruise: DAMOS

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Dispersant RI:</th>
<th>Absorption:</th>
<th>Inclusive Kurtosis = .89 phi (Platykurtic)</th>
<th>Inclusive Mean = 6.23 phi (Silt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D[4,3]</td>
<td>33.24um = 4.91phi</td>
<td>D[v,0.5]</td>
<td>1.741um = 5.84phi</td>
<td>Kurtosis = 103.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D[v,0.05]</td>
<td>1.07um = 8.87phi</td>
<td>D[v,0.84]</td>
<td>4.914um = 4.34phi</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D[v,0.16]</td>
<td>2.78um = 8.49phi</td>
<td>D[v,0.95]</td>
<td>79.43um = 3.65phi</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Inclusive SD (Sorting Coeff.) = 1.98 phi (Poorly Sorted)
Inclusive Skewness = -0.29 (Coarse Skewed)

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 492
Grain-Size Analysis Report

Sample: 06-1-I - Average  
Source: DAMOS  
Cruise: DAMOS  
SOP Name: DAMOS  
Measured by: Julie  
Measured: Friday, August 07, 2009 11:48:38 AM

Particle Name: Fraunhofer  
Dispersant Name: Water  
Particle RI: 0.000  
Dispersant RI: 1.330  
Absorption: 0  
Obscuration: 17.20

D[4,3] = 43.79um = 4.51phi  
D[4,0.5] = 1.03um = 9.92phi  
D[4,0.16] = 2.58um = 8.6phi

D[0.1] = 1.647 um  
D[0.5] = 15.293 um  
D[0.9] = 56.348 um

Inclusive Kurtosis = .89 phi (Platykurtic)  
Inclusive Skewness = -.25 (Coarse Skewed)  
Inclusive Mean = 6.37 phi (Silt)

USGS

% Clay (0-2 um) = 12.48  
% Fine Silt (2-3.9 um) = 9.78  
% Very Fine sand (62.5 - 125 um) = 5.59

% Silt (3.91-31 um) = 50

% Fine sand (125-250 um) = .02
% Medium sand (250-500 um) = .15
% Very Coarse sand (1000 - 2000 um) = 1.07

Notes:

Malvern Instruments Ltd.  
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534  
File name: DAMOS.mea  
Record Number: 496
**Grain-Size Analysis Report**

**Sample:** 07-1-A - Average

**Source:** DAMOS

**Cruise:** DAMOS

**SOP Name:** DAMOS

**Measured by:** Katy

**Measured:** Thursday, August 13, 2009 4:00:14 PM

---

**Particle Name:** Fraunhofer

**Dispersant Name:** Water

**Particle RI:** 0.000

**Dispersant RI:** 1.330

**Absorption:** 0

**Obscuration:** 26.72

**D[4,3] = 87.39um = 3.52phi**

**D[v,0.5] = 8.03um = 6.96phi**

**Kurtosis = 16.88**

**Skewness = 4.03**

**Standard Deviation = 259.22 um = 1.95phi**

**Inclusive SD (Sorting Coeff.) = 2.69 phi (Very Poorly Sorted)**

**Inclusive Kurtosis = 1.14 phi (Leptokurtic)**

**Inclusive Skewness = .21 (Fine Skewed)**

**Inclusive Mean = 6.82 phi (Silt)**

**USGS**

- % Clay (0-2 um) = 19.12
- % Fine Silt (2-3.9 um) = 14.81

**Wentworth**

- % Clay (0-3.9 um) = 33.92
- % Silt (3.91-31 um) = 42.03

- % Coarse Silt (31 - 62.5 um) = 10.5
- % Very Fine sand (62.5 - 125 um) = 3.95

**Notes:**

- Obscuration : 26.72
- Inclusive Mean = 6.82 phi (Silt)
- Inclusive Kurtosis = 1.14 phi (Leptokurtic)
- Inclusive Skewness = .21 (Fine Skewed)

---

**Particle Size Distribution**

**Size Hi**

<table>
<thead>
<tr>
<th>phi</th>
<th>um</th>
<th>Size Lo</th>
<th>phi</th>
<th>um</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1</td>
<td>(2000.00)</td>
<td>-0.5</td>
<td>(1414.21)</td>
<td>0.88</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>-0.5</td>
<td>(1414.21)</td>
<td>0.0</td>
<td>(1000.00)</td>
<td>1.82</td>
<td>99.12</td>
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</tr>
<tr>
<td>0.0</td>
<td>(1000.00)</td>
<td>0.5</td>
<td>(707.10)</td>
<td>2.13</td>
<td>97.3</td>
<td></td>
</tr>
<tr>
<td>0.5</td>
<td>(707.10)</td>
<td>1.0</td>
<td>(500.00)</td>
<td>1.77</td>
<td>95.18</td>
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</tr>
<tr>
<td>1.0</td>
<td>(500.00)</td>
<td>1.5</td>
<td>(353.55)</td>
<td>1.17</td>
<td>93.41</td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td>(353.55)</td>
<td>2.0</td>
<td>(250.00)</td>
<td>0.72</td>
<td>92.24</td>
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<tr>
<td>2.0</td>
<td>(250.00)</td>
<td>2.5</td>
<td>(176.78)</td>
<td>0.52</td>
<td>91.52</td>
<td></td>
</tr>
<tr>
<td>2.5</td>
<td>(176.78)</td>
<td>3.0</td>
<td>(125.00)</td>
<td>0.59</td>
<td>91</td>
<td></td>
</tr>
<tr>
<td>3.0</td>
<td>(125.00)</td>
<td>3.5</td>
<td>(88.39)</td>
<td>1.26</td>
<td>90.41</td>
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<tr>
<td>3.5</td>
<td>(88.39)</td>
<td>4.0</td>
<td>(62.50)</td>
<td>2.69</td>
<td>89.15</td>
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<td>4.0</td>
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<td>(44.19)</td>
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<td>76.1</td>
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<td>5.5</td>
<td>(22.10)</td>
<td>6.0</td>
<td>(15.63)</td>
<td>6.48</td>
<td>69.71</td>
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<tr>
<td>6.0</td>
<td>(15.63)</td>
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<td>(11.05)</td>
<td>6.69</td>
<td>63.23</td>
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<tr>
<td>6.5</td>
<td>(11.05)</td>
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<td>(7.81)</td>
<td>7.13</td>
<td>56.54</td>
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<tr>
<td>7.0</td>
<td>(7.81)</td>
<td>7.5</td>
<td>(5.52)</td>
<td>7.58</td>
<td>49.41</td>
<td></td>
</tr>
<tr>
<td>7.5</td>
<td>(5.52)</td>
<td>8.0</td>
<td>(3.90)</td>
<td>7.87</td>
<td>41.83</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

- d (0.1) : 1.220 um
- d (0.5) : 8.032 um
- d (0.9) : 107.941 um

---

**7-1-A - Average, Thursday, August 13, 2009 4:00:14 PM**

---

**Notes:**

- d (0.9) : 107.941
- d (0.5) : 8.032
- d (0.1) : 1.220
Grain-Size Analysis Report

Sample: 07-1-B - Average
Source: Damos
Cruise: DAMOS

<table>
<thead>
<tr>
<th>Particle Name</th>
<th>Dispersant Name</th>
<th>Particle RI</th>
<th>Dispersant RI</th>
<th>Absorption</th>
<th>Obscuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraunhofer</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>33.30</td>
</tr>
</tbody>
</table>

\[
D_v[4,3] = 100.66 \text{um} = 3.31 \text{phi}
\]
\[
D_v[0.05] = 8.0 \text{um} = 10.3 \text{phi}
\]
\[
D_v[0.016] = 1.59 \text{um} = 9.29 \text{phi}
\]

\[
D_v[0.95] = 796.5 \text{um} = 0.33 \text{phi}
\]
Kurtosis = 13.44
Skewness = 3.64

Inclusive SD (Sorting Coeff. = 2.81 phi (Very Poorly Sorted))
Inclusive Kursen (1.13 phi (Leptokurtic))
Inclusive Mean = 6.83 phi (Silt)

USGS
% Clay (0-2 um) = 20.72
% Fine Silt (2-3.9 um) = 15.28
% Clay (0-3.9 um) = 35.99
% Silt (3.91-31 um) = 39.54
% Coarse Silt (31 - 62.5 um) = 9.22
% Very Fine Sand (62.5 - 125 um) = 3.97

Wentworth
% Clay (0-2 um) = 20.72
% Coarse Sand (500-1000 um) = 1.41
% Medium Sand (250-500 um) = 1.98
% Very Fine Sand (62.5 - 125 um) = 3.97
% Coarse Sand (500-1000 um) = 4.56
% Medium Sand (250-500 um) = 5.66
% Very Coarse Sand (1000 - 2000 um) = 3.31

**Notes:**

---
07-1-B - Average, Thursday, August 13, 2009 4:05:54 PM
Grain-Size Analysis Report

Sample: 07-1-C - Average
Source: DAMOS
Cruise: DAMOS

Notes:

Inclusive Kurtosis = .85 phi (Platykurtic) Inclusive Skewness = -.23 (Coarse Skewed) Inclusive Mean = 6.34 phi (Silt)

USGS
% Clay (0-2 um) = 13.05
% Fine Silt (2-3.9 um) = 10.15
% Clay (0-3.9 um) = 23.2
% Silt (3.91-31 um) = 46.55
% Coarse Silt (31-62.5 um) = 20.16
% Very Fine sand (62.5-125 um) = 7.75
% Very Coarse sand (1000-2000 um) = .57

Wentworth
% Fine sand (125-250 um) = .28
% Medium sand (250-500 um) = .4
% Coarse sand (500-1000 um) = 1.09
% Very coarse sand (1000-2000 um) = .57

Notes:
Grain-Size Analysis Report

Sample: 07-1-D - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Katy
Measured: Thursday, August 13, 2009 4:15:18 PM

Particle Name: Fraunhofer
Dispersant Name: Water
Particle RI: 0.000
Dispersant RI: 1.330
Absorption: 0

D[4,3] = 40.16um = 4.64phi
D[v,0.5] = 15.64um = 6phi
Kurtosis = 75.52
D[v,0.16] = 2.57um = 8.6phi
Skewness = 8.17
D[v,0.95] = 80.04um = 3.64phi
Standard Deviation = 133.66 um = 2.9phi

Inclusive SD (Sorting Coeff.) = 1.99 phi (Poorly Sorted)
Inclusive Kurtosis = .88 phi (Platykurtic)
Inclusive Skewness = -0.25 (Coarse Skewed)
Inclusive Mean = 6.34 phi (Silt)

USGS
% Clay (0-2 um) = 12.5
% Fine Silt (2-3.9 um) = 9.89

Wentworth
% Clay (0-3.9 um) = 22.38
% Silt (3.91-31 um) = 48.72

% Coarse Silt (31 - 62.5 um) = 20.03
% Very Fine sand (62.5 - 125 um) = 6.56

Inclusive Mean = 6.34 phi (Silt)

Notes:

-07-1-D - Average, Thursday, August 13, 2009 4:15:18 PM

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 840

Obscuration : 17.84
Inclusive Kurtosis = .88 phi (Platykurtic)
**Grain-Size Analysis Report**

<table>
<thead>
<tr>
<th>Sample:</th>
<th>07-1-DM - Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source:</td>
<td>DAMOS</td>
</tr>
<tr>
<td>Cruise:</td>
<td>DAMOS</td>
</tr>
<tr>
<td>SOP Name:</td>
<td>DAMOS</td>
</tr>
<tr>
<td>Measured by:</td>
<td>Katy</td>
</tr>
<tr>
<td>Measured:</td>
<td>Thursday, August 13, 2009 4:41:02 PM</td>
</tr>
</tbody>
</table>

### Particle Size Distribution

**Particle Name:** Fraunhofer  
**Dispersant Name:** Water

<table>
<thead>
<tr>
<th>Particle Rl.</th>
<th>Dispersion Rl.</th>
<th>Absorption</th>
<th>Inclusive Kurtosis</th>
<th>Inclusive Skewness</th>
<th>Inclusive Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>3.14 phi (Very Poorly Sorted)</td>
<td>.33 (Strongly Fine Skewed)</td>
<td>6.14 phi (Silt)</td>
</tr>
</tbody>
</table>

**Inclusive SD (Sorting Coeff.)** = 3.14 phi (Very Poorly Sorted)  
**Inclusive Kurtosis** = .8 phi (Platykurtic)  
**Inclusive Mean** = 6.14 phi (Silt)

**USGS**

<table>
<thead>
<tr>
<th>% Clay (0-2 um)</th>
<th>18.57</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Fine Silt (2-3.9 um)</td>
<td>15.03</td>
</tr>
</tbody>
</table>

**Wentworth**

<table>
<thead>
<tr>
<th>% Clay (0-3.9 um)</th>
<th>33.59</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Silt (3.91-31 um)</td>
<td>34.02</td>
</tr>
</tbody>
</table>

**Dispersant Name:** Fraunhofer  
**Dispersant Rl.:** 0.000  
**Inclusive Kurtosis:** = .8 phi (Platykurtic)  
**Inclusive Skewness:** = .33 (Strongly Fine Skewed)  
**Inclusive Mean:** = 6.14 phi (Silt)

**Sample:** 07-1-DM - Average, Thursday, August 13, 2009 4:41:02 PM

---

**Notes:**

- Malvern Instruments Ltd.  
- Mastersizer 2000 Ver. 5.22  
- Serial Number: MAL101534  
- File name: DAMOS.mea  
- Record Number: 860
Grain-Size Analysis Report

Sample: 07-1-E - Average
Source: USGS
Cruise: DAMOS

Inclusive SD (Sorting Coeff.) = 1.97 phi (Poorly Sorted)
Inclusive Kurtosis = .89 phi (Platykurtic)
Inclusive Skewness = -0.23 (Coarse Skewed)
Inclusive Mean = 6.45 phi (Silt)

D[4,3] = 41.84um = 4.58phi  D[v,0.5] = 14.2um = 6.14phi  Kurtosis = 63.95
D[v,0.05] = 1.01um = 9.55phi  D[v,0.84] = 42.67um = 4.55phi  Skewness = 7.64
D[v,0.16] = 2.47um = 8.66phi  D[v,0.95] = 75.09um = 3.74phi  Standard Deviation = 151.15 um = 2.73phi

% Coarse Silt (31 - 62.5 um) = 18.31
% Very Fine sand (62.5 - 125 um) = 5.06
% Fine Silt (2-3.9 um) = 10.26
% Clay (0-2 um) = 12.96
% Silts (3.91-31 um) = 50.99
% Fine sand (125-250 um) = .07
% Medium sand (250-500 um) = .32
% Coarse sand (500-1000 um) = 1.13
% Very Fine sand (62.5 - 125 um) = 5.06
% Very Coarse sand (1000 - 2000 um) = .91

Obscuration : 18.12

Notes:

---

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
Record Number: 844

File name: DAMOS.mea
Grain-Size Analysis Report

Sample: 07-1-F - Average
Source: USGS
Cruise: DAMOS

SOP Name: DAMOS
Measured by: Katy
Measured: Thursday, August 13, 2009 4:24:49 PM

Particle Name: Fraunhofer
Dispersant Name: Water

<table>
<thead>
<tr>
<th>Particle Size Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particle Size (µm)</td>
</tr>
<tr>
<td>0.01</td>
</tr>
<tr>
<td>0.1</td>
</tr>
<tr>
<td>1</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td>100</td>
</tr>
<tr>
<td>1000</td>
</tr>
<tr>
<td>3000</td>
</tr>
</tbody>
</table>

Notes:

- Obscuration : 13.59
  - D[4.3] = 29.57um = 5.08phi
  - D[v,0.5] = 14.58um = 6.1phi
  - D[v,0.16] = 2.56um = 8.61phi

- Inclusive SD (Sorting Coeff.) = 1.92 phi (Poorly Sorted)
  - Inclusive Kurtosis = .88 phi (Platykurtic)
  - Inclusive Mean = 6.43 phi (Silt)

- Particle Size Distribution

- Inclusive Skewness = -0.26 (Coarse Skewed)
  - Inclusive Mean = 6.43 phi (Silt)

- USGS
  - % Clay (0-2 um) = 12.51
  - % Fine Silt (2-3.9 um) = 10.13
  - % Silt (3.91-31 um) = 51.8
  - % Coarse Silt (31-62.5 um) = 19.34
  - % Very Fine sand (62.5-125 um) = 5.04

- Wentworth
  - % Clay (0-3.9 um) = 22.63
  - % Silt (3.91-31 um) = 19.34
  - % Coarse Silt (31-62.5 um) = 19.34
  - % Very Fine sand (62.5-125 um) = 5.04

- Standard Deviation = 90.34 um = 3.47phi
  - D[4,3] = 29.57um = 5.08phi
  - D[v,0.5] = 14.58um = 6.1phi
  - D[v,0.16] = 2.56um = 8.61phi

- Kurtosis = 130.58
  - D[v,0.84] = 41.52um = 4.59phi
  - D[v,0.95] = 67.6um = 3.89phi

- Skewness = 10.57
  - D[v,0.05] = 1.04um = 9.91phi
  - D[v,0.1] = 1.65um = 1.08phi
  - D[v,0.5] = 14.57um = 5.51phi

- Malvern Instruments Ltd.
  - Mastersizer 2000 Ver. 5.22
  - Serial Number: MAL101534
  - Record Number: 848

File name: DAMOS.meas
Grain-Size Analysis Report

Sample: 07-1-G - Average
Source: DAMOS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water
Particle RI: 0.000
Dispersant RI: 1.330
Absorption: 0

D[4,3] = 37.16um = 4.75phi
D[4,0.5] = 12.9um = 6.28phi
Kurtosis = 77.31
Inclusive SD (Sorting Coeff.) = 1.93 phi (Poorly Sorted)
Inclusive Kurtosis = .87 phi (Platykurtic)
Inclusive Mean = 6.56 phi (Silt)

<table>
<thead>
<tr>
<th>Particle Size Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01</td>
</tr>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 852

Malvern, UK
Grain-Size Analysis Report

Sample: 07-1-H - Average
Source: USGS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Katy
Measured: Thursday, August 13, 2009 4:35:28 PM

Particle Name: Dispersant Name: Particle RI: Dispersant RI: Absorption:
Fraunhofer Water 0.000 1.330 0

D[4,3] = 37.06um = 4.75phi
D[3,2] = 10.02um = 9.49phi
D[0.16] = 2.46um = 8.67phi

Source:
% Fine Silt (2-3.9 um) = 10.47
Inclusive Kurtosis = .88 phi (Platykurtic)
Inclusive SD (Sorting Coeff.) = 1.99 phi (Poorly Sorted)

Inclusive Skewness = -0.21 (Coarse Skewed)
Inclusive Mean = 6.45 phi (Silt)

USGS
% Clay (0-2 um) = 12.96
% Fine Silt (2-3.9 um) = 10.47

Wentworth
% Clay (0-3.9 um) = 23.43
% Silt (3.91-31 um) = 50.24
% Very Fine sand (62.5 - 125 um) = 6.11

% Very Coarse sand (1000 - 2000 um) = .64
% Coarse sand (500-1000 um) = .89
% Fine sand (125-250 um) = .2
% Medium sand (250-500 um) = .24
% Very Fine sand (62.5 - 125 um) = 6.11

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 856
### Grain-Size Analysis Report

**Sample:** 08-1-A - Average  
**Source:**  
**Cruise:** DAMOS  
**Date:** Wednesday, August 12, 2009

<table>
<thead>
<tr>
<th>Particle Name</th>
<th>Dispersant Name</th>
<th>Particle RI</th>
<th>Absorption</th>
<th>Obscuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse Silt (31 - 62.5 um)</td>
<td>Fraunhofer</td>
<td>0.000</td>
<td>1.330</td>
<td>18.27</td>
</tr>
<tr>
<td>Very Fine sand (62.5 - 125 um)</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>18.27</td>
</tr>
</tbody>
</table>

**Inclusive SD (Sorting Coeff.) = 1.92 phi (Poorly Sorted)**  
**Inclusive Kurtosis = .87 phi (Platykurtic)**  
**Inclusive Mean = 6.6 phi (Silt)**

**USGS**  
- % Clay (0-2 um) = 13.63
- % Fine Silt (2-3.9 um) = 11.14

<table>
<thead>
<tr>
<th>d (0.1)</th>
<th>1.543 um</th>
</tr>
</thead>
<tbody>
<tr>
<td>d (0.5)</td>
<td>12.372</td>
</tr>
<tr>
<td>d (0.9)</td>
<td>48.575</td>
</tr>
</tbody>
</table>

**Wentworth**  
- % Clay (0-3.9 um) = 24.76
- % Silt (3.91-31 um) = 53.22
- % Coarse Silt (31 - 62.5 um) = 16.39
- % Very Fine sand (62.5 - 125 um) = 3.71

% Medium sand (250-500 um) = 0.27
% Coarse sand (500-1000 um) = .96

<table>
<thead>
<tr>
<th>Inclusive Kurtosis</th>
<th>Inclusive Skewness</th>
<th>Inclusive Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>.87 phi (Platykurtic)</td>
<td>-0.2 (Coarse Skewed)</td>
<td>6.6 phi (Silt)</td>
</tr>
</tbody>
</table>

**Notes:**
- Malvern Instruments Ltd.
- Mastersizer 2000 Ver. 5.22
- Serial Number: MAL101534
- File name: DAMOS.mea
- Record Number: 744

---

**Graph:**
- Particle Size Distribution
- Size Hi (phi) vs. Size Lo (um)
- % In vs. % Below

---

**Table:**

<table>
<thead>
<tr>
<th>Size Hi</th>
<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
<th>Size Hi</th>
<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>-0.5</td>
<td>(1414.21)</td>
<td>0.22</td>
<td>100</td>
<td>8.0</td>
<td>(3.90)</td>
<td>8.5</td>
<td>(2.76)</td>
</tr>
<tr>
<td>0.0</td>
<td>(1000.00)</td>
<td>0.46</td>
<td>99.78</td>
<td>8.5</td>
<td>(2.76)</td>
<td>9.0</td>
<td>(1.95)</td>
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<td>0.5</td>
<td>(707.10)</td>
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<td>99.32</td>
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<td>(1.95)</td>
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<td>0.42</td>
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<td>(1.38)</td>
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<td>(0.98)</td>
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<td>1.5</td>
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<td>0.24</td>
<td>98.36</td>
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<td>(0.69)</td>
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<tr>
<td>2.0</td>
<td>(250.00)</td>
<td>0.03</td>
<td>98.12</td>
<td>10.5</td>
<td>(0.69)</td>
<td>11.0</td>
<td>(0.49)</td>
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<tr>
<td>2.5</td>
<td>(176.78)</td>
<td>0</td>
<td>98.09</td>
<td>11.0</td>
<td>(0.49)</td>
<td>11.5</td>
<td>(0.35)</td>
</tr>
<tr>
<td>3.0</td>
<td>(125.00)</td>
<td>0</td>
<td>98.09</td>
<td>11.5</td>
<td>(0.35)</td>
<td>12.0</td>
<td>(0.24)</td>
</tr>
<tr>
<td>3.5</td>
<td>(88.39)</td>
<td>0.69</td>
<td>98.09</td>
<td>12.0</td>
<td>(0.24)</td>
<td>12.5</td>
<td>(0.17)</td>
</tr>
<tr>
<td>4.0</td>
<td>(62.50)</td>
<td>3.03</td>
<td>97.4</td>
<td>12.5</td>
<td>(0.17)</td>
<td>13.0</td>
<td>(0.12)</td>
</tr>
<tr>
<td>4.5</td>
<td>(44.19)</td>
<td>4.5</td>
<td>94.37</td>
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<td>(0.12)</td>
<td>13.5</td>
<td>(0.086)</td>
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<tr>
<td>5.0</td>
<td>(31.25)</td>
<td>5.0</td>
<td>87.87</td>
<td>13.5</td>
<td>(0.086)</td>
<td>14.0</td>
<td>(0.061)</td>
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<tr>
<td>5.5</td>
<td>(22.10)</td>
<td>5.5</td>
<td>78.23</td>
<td>14.0</td>
<td>(0.061)</td>
<td>14.5</td>
<td>(0.043)</td>
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<tr>
<td>6.0</td>
<td>(15.63)</td>
<td>6.0</td>
<td>67.19</td>
<td>14.5</td>
<td>(0.043)</td>
<td>15.0</td>
<td>(0.030)</td>
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<td>6.5</td>
<td>(11.05)</td>
<td>6.5</td>
<td>56.52</td>
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<td>(0.030)</td>
<td>15.5</td>
<td>(0.020)</td>
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<tr>
<td>7.0</td>
<td>(7.81)</td>
<td>7.0</td>
<td>47.06</td>
<td>15.5</td>
<td>(0.020)</td>
<td>15.7</td>
<td>(0.020)</td>
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<tr>
<td>7.5</td>
<td>(5.52)</td>
<td>7.5</td>
<td>38.8</td>
<td>15.7</td>
<td>(0.020)</td>
<td>15.9</td>
<td>(0.020)</td>
</tr>
<tr>
<td>8.0</td>
<td>(3.90)</td>
<td>8.0</td>
<td>31.47</td>
<td>15.9</td>
<td>(0.020)</td>
<td>16.0</td>
<td>(0.020)</td>
</tr>
</tbody>
</table>
Grain-Size Analysis Report

Sample: 08-1-B - Average
Source: DAMOS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water
Particle RI: 0.000
Dispersant RI: 1.330
Absorption: 0

D[4,3] = 42.59μm = 4.55φi
D[v,0.5] = 13.51μm = 6.21φi
D[v,0.05] = 39.9μm = 9.46φi
D[v,0.16] = 2.4μm = 8.7φi

Inclusive SD (Sorting Coeff.) = 2.03 φi (Very Poorly Sorted)
Inclusive Kurtosis = .88 φi (Platykurtic)
Inclusive Mean = 6.46 φi (Silt)

USGS
% Clay (0-2 μm) = 13.34
% Fine Silt (2-3.9 μm) = 10.6
% Coarse Silt (31 - 62.5 μm) = 17.45
% Very Fine sand (62.5 - 125 μm) = 6.48

Wentworth
% Clay (0-3.9 μm) = 23.95
% Silt (3.91-31 μm) = 49.43
% Coarse Silt (31 - 62.5 μm) = 17.45
% Very Fine sand (62.5 - 125 μm) = 6.48
% Fine sand (125-250 μm) = .27
% Medium sand (250-500 μm) = .35
% Coarse sand (500-1000 μm) = 1.23
% Very Coarse sand (1000 - 2000 μm) = .84

Obscuration:
22.75

Notes:
- d (0.1) : 1.561 μm
- d (0.5) : 13.513 μm
- d (0.9) : 59.767 μm
**Grain-Size Analysis Report**

Sample: 08-1-C - Average  
Source: DAMOS  
Cruise: DAMOS  
SOP Name: DAMOS  
Measured by: Administrator  
Measured: Wednesday, August 12, 2009 3:44:30 PM

**Notes:**

- *D[0.1] = 1.533*  
- *D[0.5] = 12.688*  
- *D[0.9] = 56.308*

**USGS**

- % Clay (0-2 um) = 13.69
- % Fine Silt (2-3.9 um) = 10.97

<table>
<thead>
<tr>
<th>Dispersant Name: Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>D[0.9] = 56.308</td>
</tr>
<tr>
<td>D[0.5] = 12.688</td>
</tr>
<tr>
<td>D[0.1] = 1.533</td>
</tr>
</tbody>
</table>

**Wentworth**

- % Clay (0-3.9 um) = 24.65
- % Silt (3.91-31 um) = 50.76
- % Coarse Silt (31-62.5 um) = 16.36
- % Very Fine sand (62.5-125 um) = 5.4
- % Fine sand (125-250 um) = 1.18
- % Medium sand (250-500 um) = 0.3
- % Coarse sand (500-1000 um) = 1.3
- % Very Coarse sand (1000-2000 um) = 1.04

**Inclusive SD (Sorting Coeff.) = 2.01 phi (Very Poorly Sorted)**

**Inclusive Kurtosis = 0.16 (Coarse Skewed)**

**Inclusive Mean = 6.53 phi (Silt)**

**Skewness = 7.14**

**Kurtosis = 55.6**

**Inclusive Mean = 6.53 phi (Silt)**

**Notes:**

- *Wentworth Distribution*
Grain-Size Analysis Report

Sample: 08-1-D - Average
Source: DAMOS
Cruise: DAMOS

<table>
<thead>
<tr>
<th>Particle Name: Fraunhofer</th>
<th>Particle RI: 0.000</th>
<th>Absorption: 0</th>
<th>Obscuration: 21.83</th>
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</thead>
<tbody>
<tr>
<td>Dispersant Name: Water</td>
<td>Dispersant RI: 1.330</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

D(4.3] = 41.41um = 4.59phi
D(v,0.5] = 12.85um = 6.28phi
Kurtosis = 64.3
Skewness = 7.65
Standard Deviation = 150.18um = 2.74phi

Inclusive SD (Sorting Coeff.) = 2.01 phi (Very Poorly Sorted)
Inclusive Skewness = -0.17 (Coarse Skewed)
Inclusive Mean = 6.52 phi (Silt)

USGS
% Clay (0-2 um) = 13.58
% Fine Silt (2-3.9 um) = 10.95
% Medium Silt (3.9-13 um) = 50.55
% Coarse Silt (31 - 62.5 um) = 16.74
% Very Fine sand (62.5 - 125 um) = 5.65
% Fine sand (125-250 um) = .2
% Medium sand (250-500 um) = .3
% Coarse sand (500-1000 um) = 1.15
% Very Coarse sand (1000 - 2000 um) = .88

Wentworth
% Clay (0-3.9 um) = 24.53
% Silt (3.91-31 um) = 50.55
% Coarse Silt (31 - 62.5 um) = 16.74
% Very Fine sand (62.5 - 125 um) = 5.65
% Fine sand (125-250 um) = .2
% Medium sand (250-500 um) = .3
% Coarse sand (500-1000 um) = 1.15
% Very Coarse sand (1000 - 2000 um) = .88

<table>
<thead>
<tr>
<th>Particle Size Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size Hi (um)</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td>-1 (2000.00)</td>
</tr>
<tr>
<td>-0.5 (1414.21)</td>
</tr>
<tr>
<td>0.0 (1000.00)</td>
</tr>
<tr>
<td>0.5 (707.10)</td>
</tr>
<tr>
<td>1.0 (500.00)</td>
</tr>
<tr>
<td>1.5 (353.55)</td>
</tr>
<tr>
<td>2.0 (250.00)</td>
</tr>
<tr>
<td>2.5 (176.78)</td>
</tr>
<tr>
<td>3.0 (125.00)</td>
</tr>
<tr>
<td>3.5 (88.39)</td>
</tr>
<tr>
<td>4.0 (62.50)</td>
</tr>
<tr>
<td>4.5 (44.19)</td>
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<tr>
<td>5.0 (31.25)</td>
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<tr>
<td>5.5 (22.10)</td>
</tr>
<tr>
<td>6.0 (15.63)</td>
</tr>
<tr>
<td>6.5 (11.05)</td>
</tr>
<tr>
<td>7.0 (7.81)</td>
</tr>
<tr>
<td>7.5 (5.52)</td>
</tr>
</tbody>
</table>

Notes:

- 08-1-D - Average, Wednesday, August 12, 2009 3:51:26 PM

---

Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
Record Number: 756

File name: DAMOS.mea
**Grain-Size Analysis Report**

**Sample:** 08-1-E - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Administrator  
**Measured:** Wednesday, August 12, 2009 3:56:53 PM

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Dispensant RI:</th>
<th>Absorption:</th>
<th>Inclusive Kurtosis:</th>
<th>Inclusive Skewness:</th>
<th>Inclusive Mean:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clay (0-2 um)</td>
<td>Fraunhofer</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>0.88 phi (Platykurtic)</td>
<td>-0.18 (Coarse Skewed)</td>
<td>6.48 phi (Silt)</td>
</tr>
<tr>
<td>Silt (3.91-31 um)</td>
<td>Water</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coarse Sand (1000 - 2000 um)</td>
<td>Water</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fine Sand (125-250 um)</td>
<td>Water</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium Sand (250-500 um)</td>
<td>Water</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Fine Sand (62.5 - 125 um)</td>
<td>Water</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Coarse Sand (1000 - 2000 um)</td>
<td>Water</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Particle Size Distribution**

![Particle Size Distribution Graph](Image)

---

**Notes:**

Malvern Instruments Ltd.  
Malvern, UK  
Mastersizer 2000 Ver. 5.22  
Serial Number : MAL101534  
Record Number: 760  
File name: DAMOS.mea
### Grain-Size Analysis Report

**Sample**: 08-1-F - Average  
**Source**: DAMOS  
**Cruise**: DAMOS  
**SOP Name**: DAMOS  
**Measured by**: Administrator  
**Measuring Date**: Wednesday, August 12, 2009  
**4:02:05 PM**

#### Particle Name: Fraunhofer

<table>
<thead>
<tr>
<th>Particle RI</th>
<th>Dispersant RI</th>
<th>Absorption</th>
<th>Obscuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>21.04</td>
</tr>
</tbody>
</table>

#### Inclusive SD (Sorting Coeff.) = 1.98 phi (Poorly Sorted)

- **Inclusive Kurtosis** = .88 phi (Platykurtic)
- **Inclusive Mean** = 6.49 phi (Silt)

#### Particle Size Distribution

<table>
<thead>
<tr>
<th>Particle Size (µm)</th>
<th>Volume (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01 - 0.1</td>
<td>0</td>
</tr>
<tr>
<td>0.1 - 1</td>
<td>10</td>
</tr>
<tr>
<td>1 - 10</td>
<td>25</td>
</tr>
<tr>
<td>10 - 100</td>
<td>50</td>
</tr>
<tr>
<td>100 - 1000</td>
<td>25</td>
</tr>
<tr>
<td>1000 - 3000</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Notes:

- **Dispersant Name**: Water
- **Dispersant RI**: 0.000
- **Inclusive Mean = 6.49 phi (Silt)**
- **Inclusive Skewness = -0.19 (Coarse Skewed)**
- **Inclusive Kurtosis = 0.88 phi (Platykurtic)**
- **Inclusive SD (Sorting Coeff.) = 1.98 phi (Poorly Sorted)**

---

**Notes:**

- **d (0.1) : 1.574 µm**
- **d (0.5) : 13.355 µm**
- **d (0.9) : 55.278 µm**
- **D[4,3] = 40.09um = 4.64phi**
- **D[v,0.5] = 13.35um = 6.23phi**
- **D[v,0.16] = 2.41um = 8.7phi**
- **D[v,0.05] = 1um = 9.86phi**
- **D[v,0.01] = 0.48um = 21.04phi**
- **Kurtosis = 69.03**
- **Skewness = 7.91**
- **Standard Deviation = 144.88 um = 2.79phi**
- **Inclusive Mean = 6.49 phi (Silt)**
- **Inclusive Kurtosis = .88 phi (Platykurtic)**
- **Inclusive SD (Sorting Coeff.) = 1.98 phi (Poorly Sorted)**

---

**Table 1:**

<table>
<thead>
<tr>
<th>Size Hi (um)</th>
<th>Size Lo (um)</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1</td>
<td>2000.00</td>
<td>0.27</td>
<td>100</td>
</tr>
<tr>
<td>-0.5</td>
<td>1414.21</td>
<td>0.54</td>
<td>99.73</td>
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<td>0.0</td>
<td>1000.00</td>
<td>0.61</td>
<td>99.18</td>
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<td>98.57</td>
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<td>97.83</td>
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<td>97.81</td>
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<td>2.5</td>
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<td>97.81</td>
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<td>0.13</td>
<td>97.81</td>
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**Notes:**

- **Malvern Instruments Ltd.**
- **Mastersizer 2000 Ver. 5.22**
- **Serial Number : MAL101534**
- **Record Number: 764**
- **File name: DAMOS.mea**
Grain-Size Analysis Report

Sample: 09-1-A - Average  
Source: Malvern Instruments Ltd.  
Cruise: DAMOS  
SOP Name: DAMOS  
Measured by: Julie  
Measured: Thursday, August 06, 2009 7:01:10 AM  
Serial Number: MAL101534  
File name: DAMOS.mea  
Record Number: 160

<table>
<thead>
<tr>
<th>Particle Name:</th>
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<tbody>
<tr>
<td>Dispersant Name:</td>
<td>Water</td>
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<tr>
<td>Dispersant RI:</td>
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<td>Absorption:</td>
<td>0</td>
</tr>
<tr>
<td>Obscuration:</td>
<td>15.35</td>
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</table>

\[ D_{[4,3]} = 39.56 \mu m = 4.66 \phi \]  
\[ D_{[v,0.5]} = 13.03 \mu m = 6.26 \phi \]  
\[ D_{[v,0.05]} = 1 \mu m = 9.97 \phi \]  
\[ D_{[v,0.16]} = 2.39 \mu m = 8.71 \phi \]

Inclusive SD (Sorting Coeff.) = 1.93 phi (Poorly Sorted)  
Inclusive Kurtosis = .89 phi (Platykurtic)  
Inclusive Mean = 6.55 phi (Silt)

USGS
\% Clay (0-2 um) = 13.38
\% Fine Silt (2-3.9 um) = 10.61
\% Coarse Silt (31-62.5 um) = 16.68
\% Very Fine sand (62.5-125 um) = 3.94
\% Very Coarse sand (1000-2000 um) = 0.9
\% Coarse sand (500-1000 um) = 1.06
\% Medium sand (250-500 um) = 0.26
\% Fine sand (125-250 um) = 0.02
\% Coarse sand (500-1000 um) = 1.06
\% Very Coarse sand (1000-2000 um) = 0.9

Wentworth
\% Clay (0-3.9 um) = 23.99
\% Silt (3.91-31 um) = 53.15
\% Coarse Silt (31-62.5 um) = 16.68
\% Very Fine sand (62.5-125 um) = 3.94
\% Very Coarse sand (1000-2000 um) = 0.9

Notes:

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09-1-A - Average, Thursday, August 06, 2009 7:01:10 AM
Grain-Size Analysis Report

Sample: 9-1-B - Average
Source: USGS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water

% Clay (0-2 um) = 12.71
% Fine Silt (2-3.9 um) = 9.98
% Very Fine sand (62.5 - 125 um) = 4.23
% Fine sand (125-250 um) = .01
% Medium sand (250-500 um) = .07
% Coarse sand (500-1000 um) = .93
% Very Coarse sand (1000 - 2000 um) = 1.26
% Coarse Silt (31 - 62.5 um) = 17.94
% Silt (3.91-31 um) = 52.87
% Clay (0-3.9 um) = 22.7
% Inclusive Skewness = -0.24 (Coarse Skewed)
% Inclusive Kurtosis = .9 phi (Mesokurtic)
% Inclusive SD (Sorting Coeff.) = 1.92 phi (Poorly Sorted)

D[4,3] = 43.65um = 4.52phi
D[v,0.5] = 14.14um = 6.14phi
Kurtosis = 55.22
Skewness = 7.24
Standard Deviation = 166.53 um = 2.59phi

D[4,3] = 43.65um = 4.52phi
D[v,0.5] = 14.14um = 6.14phi
Kurtosis = 55.22
Skewness = 7.24
Standard Deviation = 166.53 um = 2.59phi

Inclusive SD (Sorting Coeff.) = 1.92 phi (Poorly Sorted)
Inclusive Skewness = -0.24 (Coarse Skewed)
Inclusive Mean = 6.47 phi (Silt)

Notes:

---9-1-B - Average, Thursday, August 06, 2009 7:07:18 AM---
Grain-Size Analysis Report

**Sample:** 9-1-C - Average

**Source:** USGS

**Cruise:** DAMOS

**Dispersant Name:** Water

**SOP Name:** DAMOS

**Measured by:** Julie

**Measured:** Thursday, August 06, 2009 7:11:51 AM

**Particle Name:** Fraunhofer

**Dispersant RI:** 0.000

**Absorption:** 0

**Oscillation:** 14.31

**Dispersant RI:** 1.330

**D[4,3] = 41.26um = 4.6phi**

**D[v,0.5] = 13.92um = 6.17phi**

**Kurtosis = 64.72**

**Skewness = 7.73**

**Standard Deviation = 154.1 um = 2.7phi**

**D[0.1] : 1.623 um**

**d (0.5) : 13.924 um**

**d (0.9) : 51.960 um**

**Inclusive SD (Sorting Coeff.) = 1.93 phi (Poorly Sorted)**

**Inclusive Skewness = -0.23 (Coarse Skewed)**

**Inclusive Kurtosis = .91 phi (Mesokurtic)**

**Inclusive Mean = 6.47 phi (Silt)**

**USGS**

- % Clay (0-2 um) = 12.7
- % Fine Silt (2-3.9 um) = 9.98
- % Coarse Silt (31 - 62.5 um) = 17.54
- % Very Fine Sand (62.5 - 125 um) = 4.38

**Wentworth**

- % Clay (0-3.9 um) = 22.68
- % Silt (3.91-31 um) = 53.07
- % Coarse Silt (31 - 62.5 um) = 17.54
- % Very Fine Sand (62.5 - 125 um) = 4.38

**D[0.1] : 1.623 um**

**d (0.5) : 13.924 um**

**d (0.9) : 51.960 um**

**Notes:**

- 9-1-C - Average, Thursday, August 06, 2009 7:11:51 AM

---

**Malvern Instruments Ltd.**

Malvern, UK

Mastersizer 2000 Ver. 5.22

Serial Number : MAL101534

File name: DAMOS.mea

Record Number: 168
Grain-Size Analysis Report

Sample: 09-1-D - Average
Source: USGS
Cruise: DAMOS

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<th>Water</th>
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<td>Absorption:</td>
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<tr>
<td>Inclusive SD (Sorting Coeff.) = 1.98 phi (Poorly Sorted)</td>
<td>Inclusive Kurtosis = .88 phi (Platykurtic)</td>
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<td></td>
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<tr>
<td>Inclusive Skewness = -0.22 (Coarse Skewed)</td>
<td>Inclusive Mean = 6.51 phi (Silt)</td>
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<table>
<thead>
<tr>
<th>USGS</th>
<th>Wentworth</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Clay (0-2 um) = 13.68</td>
<td>% Clay (0-3.9 um) = 24.13</td>
</tr>
<tr>
<td>% Fine Silt (2-3.9 um) = 10.45</td>
<td>% Silt (3.91-31 um) = 51.24</td>
</tr>
<tr>
<td>% Coarse Silt (31 - 62.5 um) = 17.47</td>
<td>% Coarse sand (1000 - 2000 um) = 1.09</td>
</tr>
<tr>
<td>% Very Fine sand (62.5 - 125 um) = 4.64</td>
<td>% Very Coarse sand (125-250 um) = .03</td>
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<tr>
<td>d (0.1) : 1.527 um</td>
<td>d (0.5) : 13.501 um</td>
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<td>d (0.9): 53.247</td>
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</table>

Notes:

- Size Hi phi | Size Lo phi | % In | % Below phi | Size Hi um | Size Lo um | % In | % Below
-1 (2000.00) | -0.5 (1414.21) | 0.38 | 100 | 8.0 (3.90) | 8.5 (2.76) | 5.64 | 24.16
-0.5 (1414.21) | 0.0 (1000.00) | 0.71 | 99.62 | 8.5 (2.76) | 9.0 (1.95) | 5.18 | 18.52
0.0 (1000.00) | 0.5 (707.10) | 0.7 | 98.91 | 9.0 (1.95) | 9.5 (1.38) | 4.61 | 13.35
0.5 (707.10) | 1.0 (500.00) | 0.45 | 98.21 | 9.5 (1.38) | 10.0 (0.98) | 3.77 | 8.74
1.0 (500.00) | 1.5 (353.55) | 0.22 | 97.75 | 10.0 (0.98) | 10.5 (0.69) | 2.7 | 4.97
1.5 (353.55) | 2.0 (250.00) | 0.02 | 97.54 | 10.5 (0.69) | 11.0 (0.49) | 1.58 | 2.27
2.0 (250.00) | 2.5 (176.78) | 0 | 97.51 | 11.0 (0.49) | 11.5 (0.35) | 0.63 | 0.69
2.5 (176.78) | 3.0 (125.00) | 0.03 | 97.51 | 11.5 (0.35) | 12.0 (0.24) | 0.06 | 0.06
3.0 (125.00) | 3.5 (88.39) | 1.06 | 97.48 | 12.0 (0.24) | 12.5 (0.17) | 0 | 0
3.5 (88.39) | 4.0 (62.50) | 3.58 | 96.42 | 12.5 (0.17) | 13.0 (0.12) | 0 | 0
4.0 (62.50) | 4.5 (44.19) | 7.12 | 92.84 | 13.0 (0.12) | 13.5 (0.086) | 0 | 0
4.5 (44.19) | 5.0 (31.25) | 10.1 | 85.72 | 13.5 (0.086) | 14.0 (0.061) | 0 | 0
5.0 (31.25) | 5.5 (22.10) | 11.17 | 75.63 | 13.5 (0.086) | 14.0 (0.061) | 0 | 0
5.5 (22.10) | 6.0 (15.63) | 10.46 | 64.46 | 14.0 (0.061) | 14.5 (0.043) | 0 | 0
6.0 (15.63) | 6.5 (11.05) | 9.06 | 54 | 14.5 (0.043) | 15.0 (0.030) | 0 | 0
6.5 (11.05) | 7.0 (7.81) | 7.78 | 44.93 | 14.5 (0.043) | 15.5 (0.020) | 0 | 0
7.0 (7.81) | 7.5 (5.52) | 6.84 | 37.16 | 15.0 (0.030) | 15.5 (0.020) | 0 | 0
7.5 (5.52) | 8.0 (3.90) | 6.16 | 30.31 | 15.0 (0.030) | 15.5 (0.020) | 0 | 0
Grain-Size Analysis Report

Sample: 09-1-DM - Average
Source: DAMOS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water

<table>
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<th>% In</th>
<th>% Below</th>
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<td>phi</td>
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<td>(5.52)</td>
<td>8.0</td>
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</table>

Notes:

D[4,3] = 78.73um = 3.67phi
D[4,0.5] = 4.46um = 7.81phi
Kurtosis = 16.92
Skewness = 4.09

Dispersant Name: Fraunhofer
Dispersant RI: 0.000
Absorption: 0
Obscuration: 23.86
Inclusive SD (Sorting Coeff.) = 2.48 phi (Very Poorly Sorted)
Inclusive Kurtosis = 1.59 phi (Very Leptokurtic)
Inclusive Mean = 7.66 phi (Silt)

USGS
% Clay (0-2 um) = 25.89
% Silt (3.91-31 um) = 42.68
% Sand (500-1000 um) = 3.56
% Clay (0-3.9 um) = 45.85
% Fine Sand (125-250 um) = .35
% Very Fine sand (62.5 - 125 um) = .35
% Very Fine Sand (62.5 - 125 um) = .35
% Very Coarse sand (1000 - 2000 um) = 3.03

09-1-DM - Average, Thursday, August 06, 2009 7:29:47 AM
Grain-Size Analysis Report

Sample: 09-1-E - Average  
Source: USGS  
Cruise: DAMOS

Particle Name: Fraunhofer  
Dispersant Name: Water  
Particle RI: 0.000  
Dispersant RI: 1.330  
Absorption: 0  
Obscuration: 17.34

D[4,3] = 45.3 um = 4.46 phi  
D[v,0.5] = 14.5 um = 6.13 phi  
Kurtosis = 55.95

D[v,0.05] = .98 um = 10 phi  
D[v,0.16] = 2.36 um = 8.72 phi  
Skewness = 7.21

Inclusive SD (Sorting Coeff.) = 2.02 phi (Very Poorly Sorted)  
Inclusive Kurtosis = .88 phi (Platykurtic)  
Inclusive Mean = 6.45 phi (Silt)

USGS
% Clay (0-2 um) = 13.59  
% Fine Silt (2-3.9 um) = 10.21

Wentworth
% Clay (0-3.9 um) = 23.8  
% Silt (3.91-31 um) = 49.46

% Coarse Silt (31-62.5 um) = 18.48  
% Very Fine sand (62.5-125 um) = 5.66

% Inclusive Mean = 6.45 phi (Silt)

Notes:

Malvern Instruments Ltd.  
Malvern, UK  
Mastersizer 2000 Ver. 5.22  
Serial Number : MAL101534  
File name: DAMOS.mea  
Record Number: 176
Grain-Size Analysis Report

Sample: 09-1-F - Average
Source: USGS
Cruise: DAMOS

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<th>Absorption</th>
<th>Obscuration</th>
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D[4,3] = 42.33um = 4.56phi
D[0.05] = 14.68um = 6.09phi
D[0.16] = 44.37um = 4.49phi
D[0.05] = 76.78um = 3.7phi

USGS
% Clay (0-2 um) = 13.12
% Fine Silt (2-3.9 um) = 9.98
% Water
% Coarse Silt (31 - 62.5 um) = 19.06
% Very Fine sand (62.5 - 125 um) = 5.84

Wentworth
% Clay (0-3.9 um) = 23.1
% Silt (3.91-31 um) = 49.8
% Coarse Silt (31 - 62.5 um) = 19.06
% Very Fine sand (62.5 - 125 um) = 5.84
% Medium Sand (500-1000 um) = .91
% Very Coarse sand (1000 - 2000 um) = 1.01

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</table>

Size Hi | Size Lo | % In | % Below
---|---|---|---
phi | um | phi | um | % In | % Below
-1 | (2000.00) | -0.5 | (1414.21) | 0.38 | 100 |
-0.5 | (1414.21) | 0.0 | (1000.00) | 0.63 | 99.62 |
0.0 | (1000.00) | 0.5 | (707.10) | 0.56 | 98.99 |
0.5 | (707.10) | 1.0 | (500.00) | 0.35 | 98.43 |
1.0 | (500.00) | 1.5 | (353.55) | 0.17 | 98.08 |
1.5 | (353.55) | 2.0 | (250.00) | 0.04 | 97.92 |
2.0 | (250.00) | 2.5 | (176.78) | 0 | 97.88 |
2.5 | (176.78) | 3.0 | (125.00) | 0.08 | 97.88 |
3.0 | (125.00) | 3.5 | (88.39) | 1.44 | 97.8 |
3.5 | (88.39) | 4.0 | (62.50) | 4.4 | 96.35 |
4.0 | (62.50) | 4.5 | (44.19) | 8.07 | 91.96 |
4.5 | (44.19) | 5.0 | (31.25) | 10.73 | 83.89 |
5.0 | (31.25) | 5.5 | (22.10) | 11.28 | 73.16 |
5.5 | (22.10) | 6.0 | (15.63) | 10.2 | 61.88 |
6.0 | (15.63) | 6.5 | (11.05) | 8.69 | 51.68 |
6.5 | (11.05) | 7.0 | (7.81) | 7.43 | 42.99 |
7.0 | (7.81) | 7.5 | (5.52) | 6.54 | 35.56 |
7.5 | (5.52) | 8.0 | (3.90) | 5.89 | 29.02 |
15.0 | (0.030) | 15.5 | (0.020) | 0 | 0

Notes:
Grain-Size Analysis Report

Sample: 10-1-A - Average
Source: DAMOS
Cruise: USGS

Dispersant Name: Fraunhofer
Dispersant RI: 0.000
Absorption: 0

D[4,3] = 186.85um = 2.42phi
D[ν,0.5] = 20.2um = 5.63phi
D[ν,0.05] = 5.13um = 9.79phi
D[ν,0.16] = 3.09um = 8.34phi
Kurtosis = 4.94

Dispersant Name: Water
Dispersant RI: 1.330
Standard Deviation = 368.95 um = 1.44phi

Skewness = 2.35

Inclusive SD (Sorting Coeff.) = 3.32 phi (Very Poorly Sorted)
Inclusive Kurtosis = 1.08 phi (Mesokurtic)
Inclusive Skewness = .21 (Fine Skewed)
Inclusive Mean = 5.01 phi (Silt)

USGS
% Clay (0-2 um) = 10.65
% Fine Silt (2-3.9 um) = 8.54

Wentworth
% Clay (0-3.9 um) = 19.19
% Silt (3.91-31 um) = 40.88
% Coarse Silt (31 - 62.5 um) = 12.68
% Very Fine sand (62.5 - 125 um) = 5.19
% Fine sand (125-250 um) = 1.82
% Medium sand (250-500 um) = 4.68
% Coarse sand (500-1000 um) = 9.55
% Very Coarse sand (1000 - 2000 um) = 6.02

Notes:
### Grain-Size Analysis Report

**Sample:** 10-1-B - Average  
**Source:**  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Julie  
**Measured:** Thursday, August 06, 2009 7:39:25 AM

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Fraunhofer</th>
<th>Dispersant Name:</th>
<th>Water</th>
<th>Particle RI:</th>
<th>0.000</th>
<th>Absorption:</th>
<th>0</th>
<th>Obscuration:</th>
<th>20.06</th>
</tr>
</thead>
<tbody>
<tr>
<td>D[4,3] = 52.98um = 4.24phi</td>
<td>D[v,0.5] = 13.77um = 6.18phi</td>
<td>Kurtosis = 41.24</td>
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<td></td>
</tr>
<tr>
<td>D[v,0.05] = 99um = 9.98phi</td>
<td>D[v,0.84] = 43.23um = 4.53phi</td>
<td>Skewness = 6.19</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D[v,0.16] = 2.42um = 8.69phi</td>
<td>D[v,0.95] = 93.89um = 3.41phi</td>
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</table>

**Inclusive SD (Sorting Coeff.) = 2.03 phi (Very Poorly Sorted)**  
**Inclusive Skewness = -0.18 (Coarse Skewed)**  
**Inclusive Kurtosis = .94 phi (Mesokurtic)**

### USGS
- **% Clay (0-2 um) = 13.28**
- **% Fine Silt (2-3.9 um) = 10.13**
- **% Clay (0-3.9 um) = 23.4**
- **% Silt (3.91-31 um) = 51.28**
- **% Medium sand (250-500 um) = .64**
- **% Very Fine sand (62.5 - 125 um) = 4.65**
- **% Fine sand (125-250 um) = .46**
- **% Coarse sand (500-1000 um) = 1.61**
- **% Very Coarse sand (1000 - 2000 um) = 1.41**

### Wentworth
- **% Clay (0-3.9 um) = 23.4**
- **% Silt (3.91-31 um) = 16.55**
- **% Very Fine sand (62.5 - 125 um) = 4.65**
- **% Fine sand (125-250 um) = .46**
- **% Medium sand (250-500 um) = .64**
- **% Coarse sand (500-1000 um) = 1.61**
- **% Very Coarse sand (1000 - 2000 um) = 1.41**

#### Particle Size Distribution

<table>
<thead>
<tr>
<th>Particle Size (µm)</th>
<th>Volume (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01</td>
<td>0</td>
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<tr>
<td>0.1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>10</td>
<td>99.51</td>
</tr>
<tr>
<td>100</td>
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</tr>
<tr>
<td>1000</td>
<td>97.64</td>
</tr>
<tr>
<td>3000</td>
<td>96.17</td>
</tr>
</tbody>
</table>

### Notes:
- **d (0.1) : 1.559 µm**
- **d (0.5) : 13.774 µm**
- **d (0.9) : 57.748 µm**

---

**10-1-B - Average, Thursday, August 06, 2009 7:39:25 AM**
Grain-Size Analysis Report

Sample: 10-1-C - Average
Source: DAMOS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water
Particle RI: 0.000
Dispersant RI: 1.330
Absorption: 0

D_{[4,3]} = 42.66um = 4.55phi
D_{[v,0.5]} = 13.51um = 6.21phi
Kurtosis = 61.05
Skewness = 7.45

D_{[v,0.05]} = .97um = 10.01phi
D_{[v,0.16]} = 2.32um = 8.75phi
Standard Deviation = 153.9 um = 2.7phi

Inclusive SD (Sorting Coeff.) = 2 phi (Very Poorly Sorted)
Inclusive Kurtosis = .88 phi (Platykurtic)
Inclusive Skewness = -0.21 (Coarse Skewed)
Inclusive Mean = 6.51 phi (Silt)

USGS
% Clay (0-2 um) = 13.84
% Fine Silt (2-3.9 um) = 10.51

<table>
<thead>
<tr>
<th>d (0.1) : 1.510</th>
<th>um</th>
</tr>
</thead>
<tbody>
<tr>
<td>d (0.5) : 13.515</td>
<td>d (0.9) : 54.475</td>
</tr>
</tbody>
</table>

Water

% Clay (0-3.9 um) = 24.34
% Silt (3.91-31 um) = 50.48
% Coarse Silt (31 - 62.5 um) = 17.64
% Very Fine sand (62.5 - 125 um) = 4.83

Inclusive Mean = 6.51 phi (Silt)

Notes:

---

10-1-C - Average, Thursday, August 06, 2009 7:53:31 AM
### Grain-Size Analysis Report

<table>
<thead>
<tr>
<th>Sample:</th>
<th>10-1-D - Average</th>
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</thead>
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<tr>
<td>Source:</td>
<td>DAMOS</td>
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<tr>
<td>Cruise:</td>
<td>DAMOS</td>
</tr>
<tr>
<td>SOP Name:</td>
<td>DAMOS</td>
</tr>
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<td>Measured:</td>
<td>Thursday, August 06, 2009 7:48:33 AM</td>
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</table>

#### Particle Name: Fraunhofer

<table>
<thead>
<tr>
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<th>Dispersant Name</th>
<th>Particle RI:</th>
<th>Absorption:</th>
<th>Obscuration:</th>
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<tbody>
<tr>
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<td>1.330</td>
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</table>

#### Inclusive SD (Sorting Coeff.) = 2.01 phi (Very Poorly Sorted)

Inclusive Skewness = -0.21 (Coarse Skewed)

Inclusive Kurtosis = .87 phi (Platykurtic)

<table>
<thead>
<tr>
<th>USGS</th>
<th>Size Hi phi</th>
<th>Size Lo phi</th>
<th>% In</th>
<th>% Below</th>
<th>Size Hi phi</th>
<th>Size Lo phi</th>
<th>% In</th>
<th>% Below</th>
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</thead>
<tbody>
<tr>
<td>% Clay (0-2 um) = 14</td>
<td>1.497 um</td>
<td>54.666 um</td>
<td>100</td>
<td>2.34 phi</td>
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<tr>
<td>% Fine Silt (2-3.9 um) = 10.57</td>
<td>1.95 um</td>
<td>13.5 um</td>
<td>5.14</td>
<td>5.52 phi</td>
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#### Absorption:

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<tr>
<th>Obscuration: 16.75</th>
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| Malvern Instruments Ltd. Mastersizer 2000 Ver. 5.22 Serial Number: MAL101534
| File name: DAMOS.mea Record Number: 200 |

**Notes:**

- Inclusive Mean = 6.52 phi (Silt)
- Inclusive Kurtosis = 58.84 phi
- D[4,3] = 43.26 um = 4.53 phi
- D[v,0.5] = 13.33 um = 6.23 phi
- D[v,0.05] = 36 um = 10.02 phi
- D[v,0.16] = 2.29 um = 8.77 phi

- Kurtosis = 58.84 phi
- Skewness = 7.38 phi
- Standard Deviation = 160.95 um = 2.64 phi

- Particle RI:
  - Dispersant Name:
- Water
- Mean phi = 6.52
- USGS
- Wentworth
- % Clay (0-3.9 um) = 24.57
- % Silt (3.91-31 um) = 50.27
- % Coarse Silt (31 - 62.5 um) = 17.6
- % Very Fine sand (62.5 - 125 um) = 5.14
- % Fine sand (125-250 um) = .04
- % Medium sand (250-500 um) = .19
- % Coarse sand (500-1000 um) = 1.14
- % Very Coarse sand (1000 - 2000 um) = 1.06

- 10-1-D - Average, Thursday, August 06, 2009 7:48:33 AM
Grain-Size Analysis Report

Sample: 10-1-DM - Average  
Source:  
Cruise:  
SOP Name: DAMOS  
Measured by: Julie  
Measured: Thursday, August 06, 2009 8:02:48 AM

Particle Size Distribution

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<th>% In</th>
<th>% Below</th>
<th>Size Hi (um)</th>
<th>Size Lo (um)</th>
<th>% In</th>
<th>% Below</th>
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<td>53.98</td>
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</tbody>
</table>

Notes:

- D[4,3] = 73.73um = 3.76phi
- D[v,0.5] = 4.79um = 7.7phi
- D[v,0.16] = 9.52phi
- D[v,0.95] = 675.25um = .57phi

Kurtosis = 18.88  
Skewness = 4.31  
Standard Deviation = 259.03 um = 1.95phi

- Inclusive SD (Sorting Coeff.) = 2.52 phi (Very Poorly Sorted)
- Inclusive Kurtosis = 1.46 phi (Leptokurtic)
- Inclusive Skewness = .29 (Fine Skewed)
- Inclusive Mean = 7.54 phi (Silt)

- Dispersant Name: Fraunhofer  
- Dispersant RI: 0.000  
- Absorption: 0  
- Obscuration: 22.83

- USGS
  - % Clay (0-2 um) = 25.38
  - % Fine Silt (2-3.9 um) = 18.72
  - % Clay (0-3.9 um) = 44.11
  - % Silt (3.91-31 um) = 42.92
  - % Clay (0-3.9 um) = 44.11
  - % Silt (3.91-31 um) = 42.92

- Wentworth
  - % Fine sand (125-250 um) = .26
  - % Medium sand (250-500 um) = .55
  - % Coarse sand (500-1000 um) = 3.28
  - % Very Coarse sand (1000 - 2000 um) = 2.82

- Particle Name: Fraunhofer  
- Particle RI: 0.000  
- Absorption: 0  
- Obscuration: 22.83

- Measured by: Julie  
- Measured: Thursday, August 06, 2009 8:02:48 AM

- Malvern Instruments Ltd.
- Mastersizer 2000 Ver. 5.22
- Serial Number: MAL101534
- Record Number: 212
- File name: DAMOS.mea
**Grain-Size Analysis Report**

**Sample:** 10-1-E - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**Measured:** Thursday, August 06, 2009 7:43:55 AM  
**SOP Name:** DAMOS  
**Measured by:** Julie  

**Particle Name:** Fraunhofer  
**Dispersant Name:** Water  
**Dispersant RI:** 0.000  
**Absorption:** 0  
**Oscillation:** 16.61

- **D[4,3] = 45.29um = 4.46phi**
- **D[ν,0.5] = 14.05um = 6.15phi**  
  **Kurtosis = 55.25**
- **D[ν,0.16] = 2.36um = 8.72phi**  
  **Skewness = 7.16**
- **Standard Deviation = 166.13 um = 2.59phi**

**Inclusive SD (Sorting Coeff.) = 2 phi (Very Poorly Sorted)**  
**Inclusive Skewness = -0.22 (Coarse Skewed)**  
**Inclusive Kurtosis = .87 phi (Platykurtic)**

**USGS**
- **% Clay (0-2 um) = 13.58**  
- **% Fine Silt (2-3.9 um) = 10.32**
- **d (0.1) : 1.534 um**  
- **d (0.5) : 14.052 um**

**Wentworth**
- **% Clay (0-3.9 um) = 23.9**  
- **% Silt (3.91-31 um) = 49.89**  
- **% Coarse Silt (31-62.5 um) = 18.39**  
- **% Very Fine sand (62.5-125 um) = 5.21**
- **% Fine sand (125-250 um) = .03**  
- **% Medium sand (250-500 um) = .25**  
- **% Coarse sand (500-1000 um) = 1.19**  
- **% Very Coarse sand (1000 - 2000 um) = 1.14**

---

**Notes:**

- **d (0.9) : 55.627 um**

---

**Malvern Instruments Ltd.**  
Malvern, UK  
**Mastersizer 2000 Ver. 5.22**  
**Serial Number : MAL101534**  
**File name: DAMOS.mea**  
**Record Number: 196**
# Grain-Size Analysis Report

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<tr>
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<td>Source:</td>
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</tr>
<tr>
<td>Cruise:</td>
<td>DAMOS</td>
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<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Absorption:</th>
<th>Obscuration:</th>
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<td>Water</td>
<td>0.000</td>
<td>0</td>
<td>21.23</td>
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| D[4.3] = 52.26um = 4.26phi |
| D[ν,0.5] = 15.79um = 5.99phi |
| D[ν,0.05] = 9.98um = 4.35phi |
| D[ν,0.16] = 2.49um = 8.65phi |

**Dispersant RI:** 1.330

- **Kurtosis:** 45.51
- **Skewness:** 6.51
- **Standard Deviation:** 180.78um = 2.47phi

**Inclusive SD (Sorting Coeff.) = 2.06 phi (Very Poorly Sorted)**

**Inclusive Skewness = -0.23 (Coarse Skewed)**

**Inclusive Mean = 6.33 phi (Silt)**

**USGS**

- % Clay (0-2 um) = 13.03
- % Fine Silt (2-3.9 um) = 9.59

**Wentworth**

- % Clay (0-3.9 um) = 22.62
- % Silt (3.91-31 um) = 47.51
- % Coarse Silt (31 - 62.5 um) = 19.62
- % Very Fine sand (62.5 - 125 um) = 6.95
- % Fine sand (125-250 um) = .23
- % Medium sand (250-500 um) = .29
- % Coarse sand (500-1000 um) = 1.43
- % Very Coarse sand (1000 - 2000 um) = 1.36

---

**Inclusive Mean:** 6.33 phi (Silt)

**Skewness:** 6.51

**Standard Deviation:** 180.78 um = 2.47phi

**Inclusive SD (Sorting Coeff.) = 2.06 phi (Very Poorly Sorted)**

**Inclusive Skewness = -0.23 (Coarse Skewed)**

**Inclusive Mean = 6.33 phi (Silt)**

---

**Notes:**

- **Measure:** Thursday, August 06, 2009 7:58:00 AM

---

**Malvern Instruments Ltd.**

**Mastersizer 2000 Ver. 5.22**

**Serial Number:** MAL101534

**File name:** DAMOS.meas

**Record Number:** 208
## Grain-Size Analysis Report

**Sample:** 11-1-A - Average  
**Source:**  
**Cruise:**  
**SOP Name:** DAMOS  
**Measured by:** Julie  
**Measured:** Tuesday, August 04, 2009 4:19:52 PM  

### Particle Name: Fraunhofer  
**Dispersant Name:** Water  
**Particle RI:** 0.000  
**Dispersant RI:** 1.330  

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### Notes:
- **d (0.1) : 1.294 um**
- **d (0.5) : 10.497 um**
- **d (0.9) : 78.507 um**

---

**Obscuration:** 31.87

**Volume (%):**

**Inclusive SD (Sorting Coeff.) = 2.62 phi (Very Poorly Sorted)**

**Inclusive Kurtosis = 1.21 phi (Leptokurtic)**

**Inclusive Skewness = 0.9 (Near Symmetrical)**

**Inclusive Mean = 6.68 phi (Silt)**

---

**Dispersant RI:** 14.5

**Dispersant Name:** Water

**Measured by:** Julie

**Source:** USGS

**Sample:** 11-1-A - Average, Tuesday, August 04, 2009 4:19:52 PM

---

**Grain-Size Analysis Report**

**Malvern Instruments Ltd.**

**Malvern, UK**

**Mastersizer 2000 Ver. 5.22**

**Serial Number : MAL101534**

**Record Number: 144**

**File name: DAMOS.mea**
Grain-Size Analysis Report

Sample: 11-1-B - Average
Source: USGS
Cruise: DAMOS

SOP Name: DAMOS
Measured by: Julie
Measured: Tuesday, August 04, 2009 4:24:25 PM

Inclusive SD (Sorting Coeff.) = 2.03 phi (Very Poorly Sorted)
Inclusive Skewness = -0.19 (Coarse Skewed)
Inclusive Kurtosis = .92 phi (Mesokurtic)

USGS
% Clay (0-2 um) = 13.32
% Fine Silt (2-3.9 um) = 10.18

Wentworth
% Clay (0-3.9 um) = 23.5
% Silt (3.91-31 um) = 50.76
% Coarse Silt (31 - 62.5 um) = 16.94
% Very Fine sand (62.5 - 125 um) = 5.07
% Medium sand (250-500 um) = .34
% Fine sand (125-250 um) = .16
% Coarse sand (500-1000 um) = 1.73
% Very Coarse sand (1000 - 2000 um) = 1.49

---

Notes:

Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 148
Grain-Size Analysis Report

Sample: 11-1-C - Average
Source: DAMOS
Cruise: DAMOS

D[4,3] = 57.35µm = 4.12phi
D[ν,0.5] = 13.31µm = 6.23phi
D[ν,0.05] = 36.6µm = 10.83phi
D[ν,0.16] = 2.3µm = 8.77phi

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<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Dispersant RI:</th>
<th>Absorption:</th>
<th>Inclusive SD (Sorting Coeff.) = 2.05 phi (Very Poorly Sorted)</th>
<th>Kurtosis = .91 phi (Mesokurtic)</th>
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<td>1.330</td>
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<td>-- --</td>
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</tr>
<tr>
<td>Fine sand (125-250 um) = .03</td>
<td>USGS</td>
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<td>Medium sand (250-500 um) = .39</td>
<td>Wentworth</td>
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<td>Coarse sand (1000-2000 um) = 1.71</td>
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<td>Fine Silt (2-3.9 um) = 10.47</td>
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<td>Silt (3.91-31 um) = 50.39</td>
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<tr>
<td>Clay (0-2 um) = 13.98</td>
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</table>

Inclusive Skewness = -0.18 (Coarse Skewed)
Inclusive Mean = 6.51 phi (Silt)

Obscuration : 27.57

Notes:

---

11-1-C - Average, Tuesday, August 04, 2009 4:28:57 PM
Grain-Size Analysis Report

Sample: 11-1D - Average
Source: USGS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water
Particle RI: 0.000
Dispersant RI: 1.330
Absorption: 0

\[ D[4,3] = 47.48 \text{um} = 4.4 \text{phi} \]
\[ D[v,0.5] = 13.41 \text{um} = 6.22 \text{phi} \]
\[ D[v,0.16] = 2.38 \text{um} = 8.72 \text{phi} \]

% Coarse Silt (31 - 62.5 um) = 17.22
% Very Fine sand (62.5 - 125 um) = 4.48
% Fine Silt (2-3.9 um) = 10.43
% Clay (0-2 um) = 13.5
% Clay (0-3.9 um) = 23.93
% Fine sand (125-250 um) = .03
% Medium sand (250-500 um) = .16
% Coarse sand (500-1000 um) = 1.3
% Very Coarse sand (1000-2000 um) = 1.33

Inclusive SD (Sorting Coeff.) = 1.98 phi (Poorly Sorted)
Inclusive Kurtosis = .89 phi (Platykurtic)
Inclusive Mean = 6.51 phi (Silt)

Inclusive Skewness = -0.21 (Coarse Skewed)
D[4,3] = 47.48um = 4.4phi
D[v,0.5] = 13.41um = 6.22phi
Kurtosis = 48.6
Skewness = 6.76
Standard Deviation = 177.7 um = 2.49phi

D[4,3] = 47.48um = 4.4phi
D[v,0.5] = 13.41um = 6.22phi
Kurtosis = 48.6
Skewness = 6.76
Standard Deviation = 177.7 um = 2.49phi

Inclusive SD (Sorting Coeff.) = 1.98 phi (Poorly Sorted)
Inclusive Kurtosis = .89 phi (Platykurtic)
Inclusive Mean = 6.51 phi (Silt)

USGS
% Clay (0-2 um) = 13.5
% Fine Silt (2-3.9 um) = 10.43
% Silt (3.9-31 um) = 51.55
% Coarse Silt (31 - 62.5 um) = 17.22
% Very Fine sand (62.5 - 125 um) = 4.48

Wentworth
% Clay (0-3.9 um) = 23.93
% Silt (3.91-31 um) = 51.55
% Coarse Silt (31 - 62.5 um) = 17.22
% Very Fine sand (62.5 - 125 um) = 4.48

Notes:

-1 (2000.00) -0.5 (1414.21) 0.48 (1.540) 1.540 um
-0.5 (1414.21) 0.0 (1000.00) 0.85 (1.540) um
0.0 (1000.00) 0.5 (707.10) 0.81 (1.540) um
0.5 (707.10) 1.0 (500.00) 0.49 (1.540) um
1.0 (500.00) 1.5 (353.55) 0.16 (1.540) um
1.5 (353.55) 2.0 (250.00) 0 97.21 97.21 um
2.0 (250.00) 2.5 (176.78) 0 97.21 97.21 um
2.5 (176.78) 3.0 (125.00) 0.03 (1.540) um
3.0 (125.00) 3.5 (88.39) 1 (1.540) um
3.5 (88.39) 4.0 (62.50) 3.48 (1.540) um
4.0 (62.50) 4.5 (44.19) 7 (1.540) um
4.5 (44.19) 5.0 (31.25) 9.97 (1.540) um
5.0 (31.25) 5.5 (22.10) 11.08 (1.540) um
5.5 (22.10) 6.0 (15.63) 10.46 (1.540) um
6.0 (15.63) 6.5 (11.05) 9.12 (1.540) um
6.5 (11.05) 7.0 (7.81) 7.87 (1.540) um
7.0 (7.81) 7.5 (5.52) 6.96 (1.540) um
7.5 (5.52) 8.0 (3.90) 6.29 (1.540) um

% In inclusive SD (Sorting Coeff.) = 1.98 phi (Poorly Sorted)
% Below inclusive Kurtosis = .89 phi (Platykurtic)
% Inclusive Mean = 6.51 phi (Silt)

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
Record Number: 156
File name: DAMOS.mea

Notes:

--- 11-1D - Average, Tuesday, August 04, 2009 4:33:20 PM---
## Grain-Size Analysis Report

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### Particle Name:
- Fraunhofer

### Dispersant Name:
- Water

### Particle Size Distribution

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### Notes:
- Percent Clay (0-2 µm) = 13.6
- Percent Fine Clay (2-3.9 µm) = 10.6
- Percent Very Fine Sand (62.5 - 125 µm) = 17.08
- Percent Medium Sand (250-500 µm) = 0.36
- Percent Fine Sand (125-250 µm) = 0.14
- Percent Coarse Sand (500-1000 µm) = 1.24
- Inclusive Kurtosis = -0.19 (Coarse Skewed)
- Inclusive Mean = 6.51 phi (Silt)
- Inclusive SD (Sorting Coeff.) = 2 phi (Poorly Sorted)
- Skewness = 7.27
- Kurtosis = 57.74
- Obscuration = 18.11
- Standard Deviation = 159.06 µm = 2.65 phi
- D[4,3] = 43.66 µm = 4.52 phi
- D[v,0.5] = 13.29 µm = 6.23 phi
- D[v,0.05] = 2.36 µm = 8.73 phi
- D[v,0.95] = 78.41 µm = 3.67 phi

---

**Dispersant RI:**
- Fraunhofer

**Source:**
- USGS

**Cruise:**
- Julie

**Dispersant Name:**
- Water

**Particle Name:**
- Fraunhofer

**Notes:**
- Sample: 11-1-E - Average, Tuesday, August 04, 2009 4:10:38 PM

---

**Water Absorption:**
- 18.11

**Obscuration:**
- 18.11

**Mean:**
- 6.51 phi (Silt)

**Standard Deviation:**
- 159.06 µm = 2.65 phi

**Kurtosis:**
- 57.74

**Skewness:**
- 7.27

**Inclusive Mean:**
- 6.51 phi (Silt)

**Inclusive Kurtosis:**
- .89 phi (Platykurtic)

**Inclusive SD:**
- 2 phi (Poorly Sorted)

---

**Particle Size Distribution**

---

**Grain-Size Analysis Report**

---

**Notes:**
- Sample: 11-1-E - Average, Tuesday, August 04, 2009 4:10:38 PM

---

**Water Obscuration:**
- 18.11

---

**Measurement Details:**
- Measured by: Julie
- Measured: Tuesday, August 04, 2009 4:10:38 PM
- SOP Name: DAMOS
- Cruise: Julie
- Sample: 11-1-E - Average, Tuesday, August 04, 2009 4:10:38 PM

---

**Malvern Instruments Ltd.**

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**Malvern, UK**

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**Malvern, UK**

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**Mastersizer 2000 Ver. 5.22**

---

**Serial Number: MAL101534**

---

**File name: DAMOS.mea**

---

**Record Number: 136**
## Grain-Size Analysis Report

**Sample:** 11-1-F - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Julie  
**Measured:** Tuesday, August 04, 2009 4:15:16 PM

### Particle Size Distribution

![Particle Size Distribution](image-url)

**Notes:**

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<th>% In</th>
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### Obscuration

- Malvern, UK
- Mastersizer 2000 Ver. 5.22
- Serial Number: MAL101534
- File name: DAMOS.mea
- Record Number: 140

---

### Material Analysis Summary

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<thead>
<tr>
<th>Particle Name</th>
<th>Particle RI</th>
<th>Absorption</th>
<th>Obscuration</th>
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<td>Coarse Silt (31 - 62.5 um)</td>
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<td>Very Fine sand (62.5 - 125 um)</td>
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<td>3.23</td>
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<tr>
<td>% Clay (0-2 um)</td>
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<td>% Fine Silt (2-3.9 um)</td>
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<tr>
<td>% Coarse Silt (31 - 62.5 um)</td>
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<tr>
<td>% Very Fine sand (62.5 - 125 um)</td>
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<td>% Clay (0-3.9 um)</td>
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<td>% Silt (3.91-31 um)</td>
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<td>% Coarse Silt (31 - 62.5 um)</td>
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<td>% Very Fine sand (62.5 - 125 um)</td>
<td>6.17</td>
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</tbody>
</table>

---

### Measurement Details

- **Dispersant Name:** Fraunhofer  
- **Dispersant RI:** Water  
- **Source:** USGS  
- **Sample:** 11-1-F - Average  
- **Cruise:** Julie  
- **Date:** Tuesday, August 04, 2009 4:15:16 PM
Grain-Size Analysis Report

Sample: 12-1-A - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Julie
Measured: Friday, August 07, 2009 3:12:18 PM

% Coarse Silt (31 - 62.5 um) = 19.13
% Very Fine sand (62.5 - 125 um) = 0.33
% Fine Silt (2-3.9 um) = 9.89
% Clay (0-3.9 um) = 1.94
% Silt (3.91-31 um) = 52.38
% Very Fine sand (62.5 - 125 um) = 5.23
% Clay (0-2 um) = 12.05
% Medium sand (250-500 um) = 29.27
% Fine sand (125-250 um) = 0.05
% Very Coarse sand (1000 - 2000 um) = 33.33
% Coarse sand (500-1000 um) = 6.67
% Coarse sand (100-250 um) = 0.03
% Inclusive SD (Sorting Coeff.) = 1.91 phi (Poorly Sorted)
% Inclusive Kurtosis = .9 phi (Platykurtic)
% Inclusive Mean = 6.41 phi (Silt)

USGS
Wentworth

<table>
<thead>
<tr>
<th>Particle Name: Fraunhofer</th>
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</tr>
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<td>(0.030)</td>
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<td>(22.10)</td>
<td>15.5</td>
<td>(0.020)</td>
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Notes:

- 12-1-A - Average, Friday, August 07, 2009 3:12:18 PM

Grain Size Distribution

Particles Size Distribution

Volume (%)

Particle Size Distribution

0.01 0.1 1 10 100 1000 3000

Particle Size (µm)

0 1 2 3 4 5

% Volume

D[4,3] = 30.93um = 5.02phi
D[v,0.5] = 14.73um = 6.09phi
D[v,0.05] = 1.06um = 8.68phi
D[v,0.16] = 2.66um = 8.55phi

Kurtosis = 120.44
Skewness = 10.21
Inclusive Skewness = -0.25 (Coarse Skewed)
Inclusive Mean = 6.41 phi (Silt)
Inclusive SD (Sorting Coeff.) = 1.91 phi (Poorly Sorted)
Inclusive Kurtosis = .9 phi (Platykurtic)
Inclusive Mean = 6.41 phi (Silt)

Obscuration : 16.19
Inclusive Kurtosis = .9 phi (Platykurtic)
Inclusive Mean = 6.41 phi (Silt)

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
Record Number: 552
File name: DAMOS.mea
### Grain-Size Analysis Report

<table>
<thead>
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<th>Dispersant Name</th>
<th>Particle RI</th>
<th>Inclusive SD (Sorting Coeff.)</th>
<th>Kurtosis</th>
<th>Inclusive Skewness</th>
<th>Inclusive Mean</th>
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<tr>
<td>Coarse Silt (31 - 62.5 um)</td>
<td>Water</td>
<td>0.000</td>
<td>1.9 phi (Poorly Sorted)</td>
<td>-0.24</td>
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<td>Very Fine sand (62.5 - 125 um)</td>
<td>Water</td>
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<td>Fine sand (125-250 um)</td>
<td>Water</td>
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<td>Water</td>
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<td>1.3 phi (Silt)</td>
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<td>Very Coarse sand (1000 - 2000 um)</td>
<td>Water</td>
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**Notes:**

- Sample: 12-1-B - Average
- Source: DAMOS
- Measured: Friday, August 07, 2009 3:16:52 PM
- Measured by: Julie

**Particle Size Distribution Graph**

**Size Hi** | **Size Lo** | % In | % Below | **Size Hi** | **Size Lo** | % In | % Below
---|---|---|---|---|---|---|---
-1 (2000.00) | -0.5 (1414.21) | 0.12 | 100 | 8.0 (3.90) | 8.5 (2.76) | 5.47 | 22.33
-0.5 (1414.21) | 0.0 (1000.00) | 0.3 | 99.88 | 8.5 (2.76) | 9.0 (1.95) | 4.88 | 16.85
0.0 (1000.00) | 0.5 (707.10) | 0.35 | 99.59 | 9.0 (1.95) | 9.5 (1.38) | 4.21 | 11.98
0.5 (707.10) | 1.0 (500.00) | 0.31 | 99.23 | 9.5 (1.38) | 10.0 (0.98) | 3.37 | 7.77
1.0 (500.00) | 1.5 (353.55) | 0.22 | 98.92 | 10.0 (0.98) | 10.5 (0.69) | 2.39 | 4.4
1.5 (353.55) | 2.0 (250.00) | 0.07 | 98.71 | 10.5 (0.69) | 11.0 (0.49) | 1.4 | 2.01
2.0 (250.00) | 2.5 (176.78) | 0 | 98.64 | 11.0 (0.49) | 11.5 (0.35) | 0.56 | 0.61
2.5 (176.78) | 3.0 (125.00) | 0.03 | 98.64 | 11.5 (0.35) | 12.0 (0.24) | 0.05 | 0.05
3.0 (125.00) | 3.5 (88.39) | 1.07 | 98.61 | 12.0 (0.24) | 12.5 (0.17) | 0 | 0
3.5 (88.39) | 4.0 (62.50) | 3.78 | 97.54 | 12.5 (0.17) | 13.0 (0.12) | 0 | 0
4.0 (62.50) | 4.5 (44.19) | 7.49 | 93.76 | 13.0 (0.12) | 13.5 (0.086) | 0 | 0
4.5 (44.19) | 5.0 (31.25) | 10.6 | 86.27 | 13.5 (0.086) | 14.0 (0.061) | 0 | 0
5.0 (31.25) | 5.5 (22.10) | 11.77 | 75.68 | 14.0 (0.061) | 14.5 (0.043) | 0 | 0
5.5 (22.10) | 6.0 (15.63) | 11.09 | 63.91 | 14.5 (0.043) | 15.0 (0.030) | 0 | 0
6.0 (15.63) | 6.5 (11.05) | 9.54 | 52.82 | 15.0 (0.030) | 15.5 (0.020) | 0 | 0
6.5 (11.05) | 7.0 (7.81) | 8.01 | 43.28 | - | - | - | -
7.0 (7.81) | 7.5 (5.52) | 6.86 | 35.28 | - | - | - | -
7.5 (5.52) | 8.0 (3.90) | 6.08 | 28.41 | - | - | - | -

**Notes:**

- Malvern Instruments Ltd.
- Mastersizer 2000 Ver. 5.22
- Serial Number: MAL101534
- File name: DAMOS.mea
- Record Number: 556
Grain-Size Analysis Report

Sample: 12-1-C - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Julie
Measured: Friday, August 07, 2009 3:21:26 PM

Particle Name: Fraunhofer Dispersant Name: Water
Particle RI: 0.000 Dispersant RI: 1.330
Absorption: 0

% Coarse Silt (31 - 62.5 um) = 18.82
% Very Fine sand (62.5 - 125 um) = 4.96
% Very Coarse sand (1000 - 2000 um) = 0.45
% Clay (0-3.9 um) = 21.98
% Fine sand (125-250 um) = 0.02
% Medium sand (250-500 um) = .33
% Fine Silt (2-3.9 um) = 9.89
% Coarse Silt (31 - 62.5 um) = 18.82
% Coarse sand (500-1000 um) = .88
% Clay (0-2 um) = 12.09
% Very Very Fine sand (0.0 - 0.5 um) = .33
% Very Very Coarse sand (2000-4000 um) = 1.82
% Very Fine Silt (3.91-31 um) = 52.56
% Coarse sand (1000 - 2000 um) = .45
% Medium sand (250-500 um) = .33
% Very Fine sand (125-250 um) = .02
% Very Coarse sand (1000 - 2000 um) = .45

% Inclusive SD (Sorting Coeff.) = 1.91 phi (Poorly Sorted)
Inclusive Kurtosis = .9 phi (Platykurtic)
Inclusive Skewness = -.025 (Coarse Skewed)
Inclusive Mean = 6.41 phi (Silt)

USGS
% Clay (0-2 um) = 12.09
% Fine Silt (2-3.9 um) = 9.89
% Clay (0-3.9 um) = 21.98
% Silt (3.91-31 um) = 52.56
% Coarse Silt (31 - 62.5 um) = 18.82
% Very Fine sand (62.5 - 125 um) = 4.96
% Very Coarse sand (1000 - 2000 um) = 0.45
% Medium sand (250-500 um) = .33
% Coarse sand (500-1000 um) = .88
% Very Fine sand (125-250 um) = .02
% Very Coarse sand (1000 - 2000 um) = .45

Wentworth
% Clay (0-3.9 um) = 21.98
% Silt (3.91-31 um) = 52.56
% Coarse Silt (31 - 62.5 um) = 18.82
% Very Fine sand (62.5 - 125 um) = 4.96
% Coarse sand (500-1000 um) = .88
% Very Coarse sand (1000 - 2000 um) = .45
% Medium sand (250-500 um) = .33
% Coarse sand (500-1000 um) = .88
% Very Coarse sand (1000 - 2000 um) = .45

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
Record Number: 560
File name: DAMOS.mea
**Grain-Size Analysis Report**

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<td>Cruise:</td>
<td>DAMOS</td>
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<tr>
<td>SOP Name:</td>
<td>DAMOS</td>
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| % Clay (0-2 um) = 11.3 |
| % Fine Silt (2-3.9 um) = 9.19 |
| % Clay (0-3.9 um) = 20.49 |
| % Silt (3.91-31 um) = 50.54 |
| % Coarse Silt (31 - 62.5 um) = 20.57 |
| % Very Fine sand (62.5 - 125 um) = 6.67 |
| % Fine sand (125-250 um) = .3 |
| % Medium sand (250-500 um) = .67 |
| % Coarse sand (500-1000 um) = .64 |
| % Very Coarse sand (1000 - 2000 um) = .12 |

| Inclusive Mean = 6.27 phi (Silt) |

---

**Notes:**

- $d (0.1) : 1.794 \text{ um}$
- $d (0.5) : 16.362$
- $d (0.9) : 57.965$

---

**Particle Size Distribution**

![Particle Size Distribution Graph](image)

---

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**Notes:**
**Grain-Size Analysis Report**

**Sample:** 12-1-E - Average

**Source:** USGS

**Cruise:** DAMOS

**SOP Name:** DAMOS

**Measured by:** Julie

**Measured:** Friday, August 07, 2009 3:30:09 PM

---

**Particle Name:** Fraunhofer

**Dispersant Name:** Water

**Particle RI:** 0.000

**Dispersant RI:** 1.330

**Absorption:** 0

---

**D[4,3] = 40.71um = 4.62phi**

**D[v,0.5] = 15.05um = 6.05phi**

**D[v,0.05] = 1.03um = 9.92phi**

**D[v,0.16] = 2.56um = 8.61phi**

**Kurtosis = 68.12**

**Skewness = -0.25 (Coarse Skewed)**

---

**Standard Deviation = 142.2 um = 2.81phi**

---

**Inclusive SD (Sorting Coeff.) = 1.96 phi (Poorly Sorted)**

**Inclusive Kurtosis = .88 phi (Platykurtic)**

**Inclusive Mean = 6.39 phi (Silt)**

---

**Inclusive Mean = 6.39 phi (Silt)**

---

**Obscuration : 15.88**

---

**USGS**

- **% Clay (0-2 um) = 12.52**
- **% Fine Silt (2-3.9 um) = 9.99**
- **% Clay (0-3.9 um) = 22.51**
- **% Silt (3.91-31 um) = 50.13**
- **% Coarse Silt (31 - 62.5 um) = 19.6**
- **% Very Fine sand (62.5 - 125 um) = 5.55**
- **% Clay (0-2 um) = 22.51**
- **% Silt (3.91-31 um) = 50.13**
- **% Coarse Silt (31 - 62.5 um) = 19.6**
- **% Very Fine sand (62.5 - 125 um) = 5.55**

---

**Wentworth**

- **% Clay (0-2 um) = 12.52**
- **% Fine Silt (2-3.9 um) = 9.99**
- **% Clay (0-3.9 um) = 22.51**
- **% Silt (3.91-31 um) = 50.13**
- **% Coarse Silt (31 - 62.5 um) = 19.6**
- **% Very Fine sand (62.5 - 125 um) = 5.55**
- **% Fine sand (125-250 um) = .03**
- **% Medium sand (250-500 um) = .28**
- **% Coarse sand (500-1000 um) = 1.12**
- **% Very Coarse sand (1000 - 2000 um) = .79**

---

**Notes:**

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**Notes:**

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**File name:** DAMOS.mea

**Serial Number:** MAL101534

**Record Number:** 568
Grain-Size Analysis Report

Sample: 12-1-F - Average
Source: DAMOS
Cruise: Julie
Measured: Friday, August 07, 2009 3:34:59 PM

Particle Name: Fraunhofer
Dispersant Name: Water

% Clay (0-2 um) = 11.58
% Fine Silt (2-3.9 um) = 9.49

D[4,3] = 23.75um = 5.4phi
D[v,0.5] = 16.41um = 5.93phi
Kurtosis = 2.24

Inclusive SD (Sorting Coeff.) = 1.93 phi (Poorly Sorted)
Inclusive Kurtosis = .88 phi (Platykurtic)
Inclusive Mean = 6.29 phi (Silt)

USGS
% Clay (0-2 um) = 11.58
% Fine Silt (2-3.9 um) = 9.49
% Silt (3.91-31 um) = 49.5
% Coarse Silt (31 - 62.5 um) = 21.64
% Very Fine sand (62.5 - 125 um) = 7.61
% Fine sand (125-250 um) = .18
% Medium sand (250-500 um) = 0
% Coarse sand (500-1000 um) = 0
% Very Coarse sand (1000 - 2000 um) = 0

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 572
Grain-Size Analysis Report

Sample: 13-1-A - Average
Source: USGS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water

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Notes:

- Inclusive SD (Sorting Coeff.) = 2.06 phi (Very Poorly Sorted)
- Inclusive Skewness = -0.19 (Coarse Skewed)
- Inclusive Kurtosis = .94 phi (Mesokurtic)

Inclusive Mean = 6.15 phi (Silt)
## Grain-Size Analysis Report

**Sample:** 13-1-B - Average  
**Source:** USGS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Julie  
**Measured:** Friday, August 07, 2009 2:38:28 PM

### Particle Name: Fraunhofer  
### Dispersant Name: Water  
### Particle RI: 0.000  
### Dispersant RI: 1.330  
### Absorption: 0  
### Inclusive Kurtosis = .9 phi (Mesokurtic)  
### Inclusive Skewness = -0.25 (Coarse Skewed)  
### Inclusive Mean = 6.29 phi (Silt)  

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<td>5.0</td>
<td>(31.25)</td>
<td>5.5</td>
<td>(22.10)</td>
<td>11.56</td>
<td>71.02</td>
<td>13.5</td>
<td>(0.086)</td>
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<td>(22.10)</td>
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<td>(15.63)</td>
<td>10.35</td>
<td>59.47</td>
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<td>(0.061)</td>
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<td>(15.63)</td>
<td>6.5</td>
<td>(11.05)</td>
<td>8.73</td>
<td>49.12</td>
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<td>(0.043)</td>
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<td>6.5</td>
<td>(11.05)</td>
<td>7.0</td>
<td>(7.81)</td>
<td>7.35</td>
<td>40.39</td>
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<td></td>
</tr>
<tr>
<td>7.0</td>
<td>(7.81)</td>
<td>7.5</td>
<td>(5.52)</td>
<td>6.36</td>
<td>33.04</td>
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</tr>
<tr>
<td>7.5</td>
<td>(5.52)</td>
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<td>(3.90)</td>
<td>5.67</td>
<td>26.68</td>
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### Notes:

- Malvern Instruments Ltd.  
- Mastersizer 2000 Ver. 5.22  
- Serial Number: MAL101534  
- File name: DAMOS.mea  
- Record Number: 528
Grain-Size Analysis Report

Sample: 13-1-C - Average  
Source: DAMOS  
SOP Name: DAMOS  
Measured by: Julie  
Measured: Friday, August 07, 2009 2:51:02 PM

Cruise: DAMOS

Inclusive Kurtosis = .9 phi (Mesokurtic)  
Inclusive Skewness = -0.26 (Coarse Skewed)  
Inclusive Mean = 6.39 phi (Silt)

D[4,3] = 37.97um = 4.72phi  
D[v,0.05] = 1.07um = 8.87phi  
D[v,0.16] = 2.69um = 8.54phi

Dispersant Name: Water  
Dispersant RI: 1.330  
Absorption: 0  
Obscuration: 17.29

Inclusive SD (Sorting Coeff,) = 1.91 phi (Poorly Sorted)

USGS  
% Clay (0-2 um) = 11.93

% Clay (0-3.9 um) = 21.64

% Fine Silt (2-3.9 um) = 9.71

% Silt (3.91-31 um) = 52.28

% Coarse Silt (31 - 62.5 um) = 19.4

% Very Fine sand (62.5 - 125 um) = 4.87

DAMOS  
13-1-C - Average

% Fine sand (125-250 um) = .01

% Medium sand (250-500 um) = .21

% Coarse sand (500-1000 um) = .8

% Very Coarse sand (1000 - 2000 um) = .79

Notes:

---13-1-C - Average, Friday, August 07, 2009 2:51:02 PM

---
**Grain-Size Analysis Report**

**Sample:** 13-1-D - Average  
**Source:**  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured:** Friday, August 07, 2009 2:55:31 PM  
**Managed by:** Julie  

**Particle Name:**  
**Dispersant Name:**  
**Particle RI:** 0.000  
**Dispersant RI:** 1.330  
**Absorption:** 0  
**Oscillation:** 15.10  

D[4,3] = 27.02um = 5.21phi  
D[v,0.5] = 15.45um = 6.02phi  
Kurtosis = 137  
Skewness = 10.61  
D[4,3] = 27.02um = 5.21phi  
D[v,0.5] = 15.45um = 6.02phi  
Kurtosis = 137  
Skewness = 10.61  

**Inclusive SD (Sorting Coeff.) = 1.91 phi (Poorly Sorted)**  
**Inclusive Kurtosis = .89 phi (Platykurtic)**  
**Inclusive Mean = 6.35 phi (Silt)**

**USGS**  
% Clay (0-2 um) = 11.67  
% Fine Silt (2-3.9 um) = 9.58  
% Coarse Silt (31 - 62.5 um) = 20.32  
% Very Fine sand (62.5 - 125 um) = 6.16  
% Very Coarse sand (1000 - 2000 um) = .05  
% Clay (0-3.9 um) = 21.25  
% Silt (3.91-31 um) = 51.43  
% Coarse Silt (31 - 62.5 um) = 20.32  
% Very Fine sand (62.5 - 125 um) = 6.16  
% Very Coarse sand (1000 - 2000 um) = .05  

**Wentworth**  
% Clay (0-2 um) = 11.67  
% Fine Silt (2-3.9 um) = 9.58  
% Coarse Silt (31 - 62.5 um) = 20.32  
% Very Fine sand (62.5 - 125 um) = 6.16  
% Very Coarse sand (1000 - 2000 um) = .05  
% Clay (0-3.9 um) = 21.25  
% Silt (3.91-31 um) = 51.43  
% Coarse Silt (31 - 62.5 um) = 20.32  
% Very Fine sand (62.5 - 125 um) = 6.16  
% Very Coarse sand (1000 - 2000 um) = .05  

---

**Notes:**

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 540
Grain-Size Analysis Report

Sample: 13-1-E - Average
Source: DAMOS
Cruise: DAMOS

Notes:

Cruise:
Source:
Sample:

Inclusive Kurtosis = .89 phi (Platykurtic)

Kurtosis = 342.11
Standard Deviation = 43.79 um = 4.51phi

Inclusive Skewness = -0.27 (Coarse Skewed)
Inclusive Mean = 6.47 phi (Silt)

USGS
% Clay (0-2 um) = 12.25
% Fine Silt (2-3.9 um) = 10.02
% Very Fine sand (62.5 - 125 um) = 4.01

Wentworth
% Fine sand (125-250 um) = 0
% Medium sand (250-500 um) = .06
% Very Coarse sand (1000 - 2000 um) = .05

% Very Fine sand (62.5 - 125 um) = 4.01
% Coarse Silt (31 - 62.5 um) = 19.04

% Clay (0-3.9 um) = 22.26
% Silt (3.91-31 um) = 54.42

% Coarse Silt (31 - 62.5 um) = 19.04

Particle Size Distribution

Size Hi
phi um
0.00  2000.00
-0.5  1414.21
0.0   1000.00
0.5   707.10
1.0   500.00
1.5   353.55
2.0   250.00
2.5   176.78
3.0   125.00
3.5   88.39
4.0   62.50
4.5   44.19
5.0   31.25
5.5   22.10
6.0   15.63
6.5   11.05
7.0   7.81
7.5   5.52
8.0   3.90

Size Lo
phi um
0.00  0.00
-0.5  0.00
0.0   0.00
0.5   0.00
1.0   0.00
1.5   0.00
2.0   0.00
2.5   0.00
3.0   0.00
3.5   0.00
4.0   0.00
4.5   0.00
5.0   0.00
5.5   0.00
6.0   0.00
6.5   0.00
7.0   0.00
7.5   0.00
8.0   0.00

% In
-1  0
-0.5 0
0 100
0.5 0
1.0 0
1.5 0
2.0 0
2.5 0
3.0 0
3.5 0
4.0 0
4.5 0
5.0 0
5.5 0
6.0 0
6.5 0
7.0 0
7.5 0
8.0 0

% Below
-1 100
-0.5 100
0 0
0.5 0
1.0 0
1.5 0
2.0 0
2.5 0
3.0 0
3.5 0
4.0 0
4.5 0
5.0 0
5.5 0
6.0 0
6.5 0
7.0 0
7.5 0
8.0 0

Size Hi
phi um
0.00  8.00
-0.5  8.50
0.0   8.50
0.5   9.00
1.0   9.50
1.5   10.00
2.0   10.50
2.5   11.00
3.0   11.50
3.5   12.00
4.0   12.50
4.5   13.00
5.0   13.50
5.5   14.00
6.0   14.50
6.5   15.00
7.0   15.50
7.5   16.00
8.0   16.50

Size Lo
phi um
0.00  8.50
-0.5  8.50
0.0   8.50
0.5   9.00
1.0   9.50
1.5   10.00
2.0   10.50
2.5   11.00
3.0   11.50
3.5   12.00
4.0   12.50
4.5   13.00
5.0   13.50
5.5   14.00
6.0   14.50
6.5   15.00
7.0   15.50
7.5   16.00
8.0   16.50

% In
-1 0
-0.5 0
0 0
0.5 0
1.0 0
1.5 0
2.0 0
2.5 0
3.0 0
3.5 0
4.0 0
4.5 0
5.0 0
5.5 0
6.0 0
6.5 0
7.0 0
7.5 0
8.0 0

% Below
-1 100
-0.5 100
0 0
0.5 0
1.0 0
1.5 0
2.0 0
2.5 0
3.0 0
3.5 0
4.0 0
4.5 0
5.0 0
5.5 0
6.0 0
6.5 0
7.0 0
7.5 0
8.0 0

Notes:
## Grain-Size Analysis Report

**Sample:** 13-1-F - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Julie  
**Measured:** Friday, August 07, 2009 3:07:39 PM

### Particle Size Distribution

<table>
<thead>
<tr>
<th>Size Hi (um)</th>
<th>Size Lo (um)</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1</td>
<td>0.01</td>
<td>0.01</td>
<td>100</td>
</tr>
<tr>
<td>0.5</td>
<td>1.698</td>
<td>1.698</td>
<td>0.02</td>
</tr>
<tr>
<td>1.0</td>
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<td>55.161</td>
<td>100</td>
</tr>
</tbody>
</table>

### Inclusive SD (Sorting Coeff.) = 1.93 phi (Poorly Sorted)

### Inclusive Kurtosis = 0.88 phi (Platykurtic)

### Skewness = 9.98

### Kurtosis = 113.11

### Mean = 6.36 phi (Silt)

### Obscuration : 14.80

---

### Particle Name: Fraunhofer  
**Dispersant Name:** Water  
**Particle RI:** 0.000  
**Dispersant RI:** 1.330  
**Absorption:** 0  
**Inclusive SD (Sorting Coeff.) = 1.93 phi (Poorly Sorted)**  
**Inclusive Kurtosis = 0.88 phi (Platykurtic)**  
**Inclusive Mean = 6.36 phi (Silt)**  
**Inclusive Skewness = -0.26 (Coarse Skewed)**

### USGS

- **% Clay (0-2 um): 12.06**
- **% Fine Silt (2-3.9 um): 9.77**
- **% Clay (0-3.9 um): 21.84**
- **% Silt (3.91-31 um): 50.52**
- **% Coarse Silt (31-62.5 um): 20.3**
- **% Very Fine sand (62.5-125 um): 6.09**
- **% Fine sand (125-250 um): 0.04**
- **% Medium sand (250-500 um): 0.28**
- **% Coarse sand (500-1000 um): 0.64**
- **% Very coarse sand (1000-2000 um): 0.29**

### Wentworth

- **% Clay (0-2 um): 12.06**
- **% Fine Silt (2-3.9 um): 9.77**
- **% Clay (0-3.9 um): 21.84**
- **% Silt (3.91-31 um): 50.52**
- **% Coarse Silt (31-62.5 um): 20.3**
- **% Very Fine sand (62.5-125 um): 6.09**
- **% Fine sand (125-250 um): 0.04**
- **% Medium sand (250-500 um): 0.28**
- **% Coarse sand (500-1000 um): 0.64**
- **% Very coarse sand (1000-2000 um): 0.29**

---

### Notes:

- **d (0.1) : 1.698 um**
- **d (0.5) : 15.507**
- **d (0.9) : 55.161**

---

### Particle Size Distribution

---

### Inclusive Mean = 6.36 phi (Silt)

---

### Inclusive Kurtosis = 0.88 phi (Platykurtic)

---

### Inclusive Skewness = -0.26 (Coarse Skewed)

---

### Inclusive SD (Sorting Coeff.) = 1.93 phi (Poorly Sorted)

---

### Kurtosis = 113.11

---

### Skewness = 9.98

---

### Mean = 6.36 phi (Silt)

---

### Obscuration : 14.80
Grain-Size Analysis Report

Sample: 14-1-A - Average  
Source: USGS  
Cruise: DAMOS  
SOP Name: DAMOS  
Measured by: Julie  
Measured: Friday, August 07, 2009 11:57:36 AM

<table>
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<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Dispersion RI:</th>
<th>Absorption:</th>
<th>Obscuration:</th>
<th>Inclusive Kurtosis = 1.1 phi (Mesokurtic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraunhofer</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>15.88</td>
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</table>

<table>
<thead>
<tr>
<th>Inclusive SD (Sorting Coeff.) = 2.18 phi (Very Poorly Sorted)</th>
<th>Inclusive Skewness = -0.09 (Near Symmetrical)</th>
<th>Inclusive Mean = 6.3 phi (Silt)</th>
</tr>
</thead>
</table>

USGS

<table>
<thead>
<tr>
<th>% Clay (0-2 um) = 11.58</th>
<th>% Fine Silt (2-3.9 um) = 9.73</th>
<th>% Clay (0-3.9 um) = 21.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Silt (3.91-31 um) = 50.55</td>
<td>% Coarse Silt (31 - 62.5 um) = 16.87</td>
<td>% Fine sand (125-250 um) = 1.17</td>
</tr>
<tr>
<td>% Very Fine sand (62.5 - 125 um) = 5.4</td>
<td>% Medium sand (250-500 um) = 1.21</td>
<td></td>
</tr>
<tr>
<td>% Very Coarse sand (1000 - 2000 um) = 1.57</td>
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</table>

Wentworth

<table>
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<tr>
<th>d (0.1) : 1.761 um</th>
<th>d (0.5) : 15.171</th>
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<td>d (0.9) : 68.377</td>
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Size Hi  | Size Lo  | % In  | % Below  |
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
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<td>phi</td>
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<td>phi</td>
<td>um</td>
</tr>
<tr>
<td>-1 (2000.00)</td>
<td>-0.5 (1414.21)</td>
<td>0.53</td>
<td>100</td>
</tr>
<tr>
<td>-0.5 (1414.21)</td>
<td>0.0 (1000.00)</td>
<td>1.04</td>
<td>99.47</td>
</tr>
<tr>
<td>0.0 (1000.00)</td>
<td>0.5 (707.10)</td>
<td>1.07</td>
<td>98.43</td>
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<td>96.5</td>
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<td>2.5 (176.78)</td>
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<td>95.29</td>
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<td>3.0 (125.00)</td>
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</table>

Size HI  | Size Lo  | % In  | % Below  |
<table>
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<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>phi</td>
<td>um</td>
<td>phi</td>
<td>um</td>
</tr>
<tr>
<td>-1 (2000.00)</td>
<td>8.0 (3.90)</td>
<td>(3.90)</td>
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</tr>
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<td>2.5 (176.78)</td>
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<td>(0.35)</td>
<td>0.05</td>
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<td>0</td>
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<tr>
<td>3.5 (88.39)</td>
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<td>(0.17)</td>
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<tr>
<td>4.0 (62.50)</td>
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<td>(0.12)</td>
<td>13.5</td>
</tr>
<tr>
<td>4.5 (44.19)</td>
<td>13.5 (0.08)</td>
<td>(0.08)</td>
<td>14.0</td>
</tr>
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<td>5.0 (31.25)</td>
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<td>14.5</td>
</tr>
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<td>5.5 (22.10)</td>
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<td>6.0 (15.63)</td>
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<td>(0.02)</td>
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</table>

Notes:
# Grain-Size Analysis Report

**Sample:** 14-1-B - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Julie  
**Measured:** Friday, August 07, 2009 12:01:53 PM

## Particle Size Distribution

### Inclusive SD (Sorting Coeff.) = 1.98 phi (Poorly Sorted)

- **Inclusive Kurtosis** = -.96 phi (Mesokurtic)
- **Inclusive Mean** = 6.37 phi (Silt)

### Particle Name: Fraunhofer  
**Dispersant Name:** Water  
**Particle RI:** 0.000  
**Dispersant RI:** 1.330  
**Absorption:** 0  
**Obscuration:** 12.35

### Particle Size Distribution

- **D[4,3] = 52.96um = 4.24phi**
- **D[v,0.5] = 14.83um = 6.08phi**
- **Kurtosis = 33.94**
- **Skewness = 5.57**
- **Standard Deviation = 168.46 um = 2.57phi**

### Particle Size Distribution

#### Sample:
- **% Clay (0-2 um) = 11.76**
- **% Fine Silt (2-3.9 um) = 9.73**
- **% Silt (3.91-31 um) = 52.15**
- **% Very Fine sand (62.5 - 125 um) = 4.44**
- **% Very Coarse sand (1000 - 2000 um) = 0.94**

#### Inclusive SD (Sorting Coeff.) = 1.98 phi (Poorly Sorted)
- **% Inclusive Kurtosis** = -.96 phi (Mesokurtic)
- **% Inclusive Mean** = 6.37 phi (Silt)

### Particle Size Distribution

#### Particle Size

- **D[0.1] : 1.737 um**
- **D[0.5] : 14.831 um**
- **D[0.9] : 58.080 um**

### Notes:
- **d (0.1) : 1.737 um**
- **d (0.5) : 14.831 um**
- **d (0.9) : 58.080 um**

---

**Graphical Representation:**

- **Particle Size Distribution**
- **Volume (%)** vs **Particle Size (µm)**

---

**Malvern Instruments Ltd.**  
**Malvern, UK**  
**Mastersizer 2000 Ver. 5.22**  
**Serial Number : MAL101534**  
**File name: DAMOS.mea**  
**Record Number: 508**
Grain-Size Analysis Report

Sample: 14-1-C - Average
Source: DAMOS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water
Dispersant RI: 0.000
Absorption: 0
Obscuration: 19.96

\[ D[4,3] = 41.91 \text{um} = 4.58\phi \]
\[ D[\text{v},0.5] = 14.91 \text{um} = 6.07\phi \]
\[ D[\text{v},0.05] = 1.03 \text{um} = 9.92\phi \]
\[ D[\text{v},0.16] = 2.56 \text{um} = 8.61\phi \]
\[ D[\text{v},0.95] = 76.99 \text{um} = 3.7\phi \]

\[ \text{Standard Deviation} = 147.46 \text{um} = 2.76\phi \]

% Coarse Silt (31 - 62.5 um) = 19.23

% Very Fine sand (62.5 - 125 um) = 5.63

% Fine sand (125-250 um) = .04

% Medium sand (250-500 um) = .45

% Coarse sand (500-1000 um) = 1.08

% Very Coarse sand (1000 - 2000 um) = .85

% Clay (0-2 um) = 12.57

% Fine Silt (2-3.9 um) = 9.97

% Clay (0-3.9 um) = 22.54

% Silt (3.91-31 um) = 50.18

% Coarse Silt (31 - 62.5 um) = 19.23

% Very Fine sand (62.5 - 125 um) = 5.63

% Fine sand (125-250 um) = .04

% Medium sand (250-500 um) = .45

% Coarse sand (500-1000 um) = 1.08

% Very Coarse sand (1000 - 2000 um) = .85

% Clay (0-3.9 um) = 22.54

% Silt (3.91-31 um) = 50.18

% Coarse Silt (31 - 62.5 um) = 19.23

% Very Fine sand (62.5 - 125 um) = 5.63

% Fine sand (125-250 um) = .04

% Medium sand (250-500 um) = .45

% Coarse sand (500-1000 um) = 1.08

% Very Coarse sand (1000 - 2000 um) = .85

Inclusive SD (Sorting Coeff.) = 1.97 phi (Poorly Sorted)
Inclusive Skewness = -0.24 (Coarse Skewed)
Inclusive Mean = 6.39 phi (Silt)

USGS
% Clay (0-2 um) = 12.57
% Fine Silt (2-3.9 um) = 9.97

% Clay (0-3.9 um) = 22.54
% Silt (3.91-31 um) = 50.18
% Coarse Silt (31 - 62.5 um) = 19.23
% Very Fine sand (62.5 - 125 um) = 5.63
% Fine sand (125-250 um) = .04
% Medium sand (250-500 um) = .45
% Coarse sand (500-1000 um) = 1.08
% Very Coarse sand (1000 - 2000 um) = .85

Wentworth
% Clay (0-3.9 um) = 22.54
% Silt (3.91-31 um) = 50.18
% Coarse Silt (31 - 62.5 um) = 19.23
% Very Fine sand (62.5 - 125 um) = 5.63
% Fine sand (125-250 um) = .04
% Medium sand (250-500 um) = .45
% Coarse sand (500-1000 um) = 1.08
% Very Coarse sand (1000 - 2000 um) = .85

Notes:

Vol: 14-1-C - Average, Friday, August 07, 2009 12:08:19 PM
Grain-Size Analysis Report

Sample: 14-1-D - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Julie
Measured: Friday, August 07, 2009 1:54:11 PM

D[4,3] = 51.04um = 4.29phi
D[v,0.5] = 18.76um = 5.74phi
Kurtosis = 47.25
D[v,0.05] = 1.11um = 8.82phi
Skewness = 6.46
D[v,0.16] = 2.92um = 8.42phi
Standard Deviation = 150.92 um = 2.73phi
D[v,0.95] = 101.36um = 3.3phi

Inclusive Kurtosis = .91 phi (Mesokurtic)
Inclusive Skewness = -0.26 (Coarse Skewed)
Inclusive Mean = 6.1 phi (Silt)

USGS
% Clay (0-2 um) = 11.16
% Fine Silt (2-3.9 um) = 8.89
% Clay (0-3.9 um) = 20.05
% Silt (3.91-31 um) = 45.08
% Fine Silt (31 - 62.5 um) = 21.73
% Coarse Silt (62.5 - 125 um) = 9.43
% Very Fine sand (1000 - 2000 um) = .75
% Medium sand (250-500 um) = .57
% Coarse sand (500-1000 um) = 1.91
% Very Coarse sand (1000 - 2000 um) = .75

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
Record Number: 516
File name: DAMOS.meas
Grain-Size Analysis Report

Sample: 14-1-E - Average
Source: DAMOS
Cruise: DAMOS

Dispersant Name: Water
Particle Name: Fraunhofer

D[4,3] = 24.31um = 5.36phi
D[3,2] = 1.05um = 9.89phi
D[0,16] = 2.58um = 8.66phi

% Fine Silt (2-3.9 um) = 10.1
% Clay (0-2 um) = 12.41
Inclusive Kurtosis = .86 phi (Platykurtic)

D[v,0.5] = 15.04um = 6.05phi
D[v,0.64] = 46.19um = 4.44phi
D[v,0.95] = 75.34um = 3.73phi

Standard Deviation = 31.86 um = 4.98phi

USGS
% Clay (0-2 um) = 12.41
% Fine Silt (2-3.9 um) = 10.1
% Clay (0-3.9 um) = 22.51
% Silt (3.91-31 um) = 49.04
% Coarse Silt (31 - 62.5 um) = 20.04
% Very Fine sand (62.5 - 125 um) = 7.77

Inclusive SD (Sorting Coeff.) = 1.98 phi (Poorly Sorted)
Inclusive Kurtosis = -.23 (Coarse Skewed)
Inclusive Mean = 6.36 phi (Silt)

Wentworth
% Fine sand (125-250 um) = .44
% Medium sand (250-500 um) = .13
% Coarse sand (500-1000 um) = .07
% Very Coarse sand (1000 - 2000 um) = 0

Notes:

--- 14-1-E - Average, Friday, August 07, 2009 2:33:03 PM ---
Grain-Size Analysis Report

Sample: 14-1-F - Average
Source: DAMOS
Cruipe: DAMOS

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Absorption:</th>
<th>Obscuration:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraunhofer</td>
<td>Water</td>
<td>0.000</td>
<td>0</td>
<td>16.51</td>
</tr>
</tbody>
</table>

D[4,3] = 26.39um = 5.24phi
D[v,0.5] = 17.39um = 5.85phi
D[v,0.05] = 1.99um = 0.37phi
D[v,0.16] = 2.83um = 0.47phi
D[v,0.01] = 1.09um = 0.18phi

Inclusive SD (Sorting Coeff.) = 1.99 phi (Poorly Sorted)
Inclusive Kurtosis = 0.87 phi (Platykurtic)
Inclusive Mean = 6.2 phi (Silt)

USGS
% Clay (0-2 um) = 11.44
% Fine Silt (2-3.9 um) = 9.27

Wentworth
% Clay (0-3.9 um) = 20.71
% Silt (3.91-31 um) = 46.76
% Coarse Silt (31 - 62.5 um) = 21.93
% Very Fine sand (62.5 - 125 um) = 9.8
% Fine sand (125-250 um) = .79
% Medium sand (250-500 um) = .01
% Coarse sand (500-1000 um) = 0
% Very Coarse sand (1000 - 2000 um) = 0

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
Record Number: 520
File name: DAMOS.mea
**Grain-Size Analysis Report**

**Sample:** 15-1-A - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Administrator  
**Measured:** Wednesday, August 12, 2009 1:58:38 PM

<table>
<thead>
<tr>
<th>Particle Name: Fraunhofer</th>
<th>Dispersant Name: Water</th>
<th>Particle RI: 0.000</th>
<th>Dispersant RI: 1.330</th>
<th>Absorption: 0</th>
<th>Obscuration: 13.48</th>
</tr>
</thead>
</table>

Inclusive Kurtosis = .89 phi (Platykurtic)  
Inclusive Skewness = -.28 (Coarse Skewed)  
Inclusive Mean = 6.28 phi (Silt)

**Inclusive SD (Sorting Coeff.) = 1.94 phi (Poorly Sorted)**

**Wentworth**

- % Clay (0-2 um) = 11.53
- % Fine Silt (2-3.9 um) = 9.38
- % Clay (3.91-31 um) = 49.58
- % Silt (31-62.5 um) = 21.3
- % Coarse Silt (62.5-125 um) = 6.88
- % Very Fine sand (125-250 um) = .14
- % Fine sand (250-500 um) = .35
- % Medium sand (500-1000 um) = .59
- % Coarse sand (1000-2000 um) = .25

**Notes:**

- **D[4,3] = 31.55um = 4.99phi**
- **D[v,0.5] = 16.56um = 5.92 phi**
- **Kurtosis = 119.67**
- **Skewness = 10.15**
- **Inclusive SD (Sorting Coeff.) = 1.94 phi (Poorly Sorted)**
- **Inclusive Kurtosis = .89 phi (Platykurtic)**
- **Inclusive Skewness = -.28 (Coarse Skewed)**
- **Inclusive Mean = 6.28 phi (Silt)**

**Grain-Size Analysis Report**

**Size Hi**

<table>
<thead>
<tr>
<th>phi</th>
<th>um</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
<tr>
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<td>(3.90)</td>
<td>5.11</td>
<td>20.93</td>
</tr>
<tr>
<td>8.5</td>
<td>(2.76)</td>
<td>4.59</td>
<td>15.82</td>
</tr>
<tr>
<td>9.0</td>
<td>(1.95)</td>
<td>3.97</td>
<td>11.23</td>
</tr>
<tr>
<td>9.5</td>
<td>(1.38)</td>
<td>3.17</td>
<td>7.26</td>
</tr>
<tr>
<td>10.0</td>
<td>(0.98)</td>
<td>2.23</td>
<td>4.09</td>
</tr>
<tr>
<td>10.5</td>
<td>(0.69)</td>
<td>1.3</td>
<td>1.86</td>
</tr>
<tr>
<td>11.0</td>
<td>(0.49)</td>
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<td>11.5</td>
<td>(0.35)</td>
<td>0.05</td>
<td>0.05</td>
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<td>12.0</td>
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<td>13.5</td>
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<tr>
<td>15.0</td>
<td>(0.030)</td>
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</table>

**Size Lo**

<table>
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<tr>
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<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01</td>
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<td>15.82</td>
<td>4.09</td>
</tr>
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<td>0.56</td>
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<tr>
<td>1.0</td>
<td>(0.35)</td>
<td>0.05</td>
<td>0.05</td>
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<tr>
<td>2.0</td>
<td>(0.35)</td>
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<tr>
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<td>(0.14)</td>
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</tr>
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<td>5.0</td>
<td>(0.14)</td>
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<td>(0.14)</td>
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<td>7.0</td>
<td>(0.14)</td>
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</tr>
<tr>
<td>8.0</td>
<td>(0.14)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Notes:**

- **D[v,0.05] = 1.09um = 9.84phi**
- **D[v,0.16] = 2.8um = 8.46phi**
- **D[v,0.95] = 74.96um = 3.74phi**

---

**15-1-A - Average, Wednesday, August 12, 2009 1:58:38 PM**

---

**Notes:**

- **D[0.9] = 57.647**
- **D[v,0.84] = 46.22um = 4.44phi**
- **Skewness = 10.15**
- **Inclusive Kurtosis = .89 phi (Platykurtic)**

---

**Notes:**
Grain-Size Analysis Report

Sample: 15-1-B - Average
Source: DAMOS
Cruise: DAMOS

Sample:
Inclusive Kurtosis = 85.82
Kurtosis = 8.79

Dispersant Name: Water
Dispersant RI: 1.330

Inclusive SD (Sorting Coeff.) = 1.97 phi (Poorly Sorted)

Inclusive Skewness = -0.26 (Coarse Skewed)
Inclusive Mean = 6.33 phi (Silt)

% Clay (0-3.9 um) = 21.86
% Clay (0-2 um) = 12.24
% Fine Silt (2-3.9 um) = 9.62
% Silt (3.91-31 um) = 49.21

D[4,3] =  38.51um = 4.7phi
D[v,0.5] =  15.96um = 5.97phi
D[v,0.05] =  1.05um = 8.9phi
D[v,0.16] =  2.64um = 8.57phi
D[v,0.95] =  76.85um = 3.7phi

Dispersant Name:
Dispersant Name:
Dispersant Name:

Inclusive Skewness = -0.26 (Coarse Skewed)
Inclusive Kurtosis = .88 phi (Platykurtic)

% Clay (0-2 um) = 12.24
% Fine Silt (2-3.9 um) = 9.62

D[v,0.05] =  46.07um = 4.44phi
D[v,0.84] =  38.51um = 4.7phi

Measured by: Administrator
Measured: Wednesday, August 12, 2009
2:04:04 PM

---15-1-B - Average, Wednesday, August 12, 2009 2:04:04 PM

Notes:
Grain-Size Analysis Report

Sample: 15-1-C - Average
Source: DAMOS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water
Particle RI: 0.000
Dispersant RI: 1.330
Absorption: 0

D[4,3] = 43.1 um = 4.54 phi
D[4,0] = 17.28 um = 5.85 phi
D[4,0.5] = 50.61 um = 4.3 phi
D[4,0.16] = 87.76 um = 3.51 phi
Kurtosis = 69.64
Skewness = 7.85
Inclusive SD (Sorting Coeff.) = 2 phi (Very Poorly Sorted)
Inclusive Skewness = -0.26 (Coarse Skewed)
Inclusive Mean = 6.21 phi (Silt)

USGS
% Clay (0-2 um) = 11.48
% Silt (2-3.9 um) = 9.35
d (0.1) : 1.772 um
d (0.5) : 17.281 um
d (0.9) : 64.432

Wentworth
% Clay (0-3.9 um) = 20.84
% Silt (3.91-31 um) = 47.37
% Coarse Silt (31 - 62.5 um) = 21.13
% Very Fine sand (62.5 - 125 um) = 8.05
% Fine sand (125-250 um) = .4
% Medium sand (250-500 um) = .33
% Coarse sand (500-1000 um) = 1.18
% Very Coarse sand (1000 - 2000 um) = .69

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 684

15-1-C - Average, Wednesday, August 12, 2009 2:08:35 PM
Grain-Size Analysis Report

Sample: 15-1-D - Average
Source: DAMOS
Cruise: DAMOS

**Particle Name:** Fraunhofer
**Dispersant Name:** Water
**Particle RI:** 0.000
**Dispersant RI:** 1.330
**Absorption:** 0
**Obscuration:** 15.02

\[ D(0.5) = 15.612 \text{um} = 6.88phi \]
\[ D(0.05) = 1.068 \text{um} = 8.88phi \]
\[ D(0.16) = 2.656 \text{um} = 8.56phi \]

**Dispersant Name:** Water
**Dispersion Clarity:** 4.87phi

**Inclusive SD (Sorting Coeff.) = 1.94 phi (Poorly Sorted)**
**Inclusive Kurtosis = .88 phi (Platykurtic)**
**Inclusive Skewness = -0.26 (Coarse Skewed)**
**Inclusive Mean = 6.35 phi (Silt)**

**USGS**
- % Clay (0-2 um) = 12.09
- % Fine Silt (2-3.9 um) = 9.81
- % Clay (0-3.9 um) = 21.9
- % Silt (3.91-31 um) = 50.11
- % Coarse Silt (31 - 62.5 um) = 20.35
- % Very Fine sand (62.5 - 125 um) = 6.17

**Wentworth**
- % Fine sand (125-250 um) = .04
- % Medium sand (250-500 um) = .23
- % Coarse sand (500-1000 um) = .72
- % Very Coarse sand (1000 - 2000 um) = .48

**Particle Size Distribution**

---

**Notes:**

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 688
**Grain-Size Analysis Report**

**Sample:** 15-1-E - Average  
**Source:**  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Administrator  
**Measured:** Wednesday, August 12, 2009 2:18:35 PM

<table>
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<tr>
<th>Particle Name: Fraunhofer</th>
<th>Particle RI: 0.000</th>
<th>Absorption: 0</th>
<th>Obscuration: 13.97</th>
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</thead>
<tbody>
<tr>
<td>Dispersant Name: Water</td>
<td>Dispersant RI: 1.330</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Inclusive SD (Sorting Coeff.)** = 1.92 phi (Poorly Sorted)  
**Inclusive Kurtosis** = .88 phi (Platykurtic)  
**Inclusive Mean** = 6.42 phi (Silt)

**Dispersant Name:** Water  
**Dispersant RI:** 1.330

- **D[4,3] = 33.82um = 4.89phi**  
- **D[v,0.5] = 14.65um = 6.09phi**  
- **D[v,0.95] = 69.7um = 3.84phi**  
- **Kurtosis = 105.74**  
- **Skewness = 9.7**  
- **Standard Deviation = 117.71 um = 3.09phi**

**USGS**  
- **% Clay (0-2 um) = 12.35**  
- **% Fine Silt (2-3.9 um) = 10.14**  
- **% Very Fine sand (62.5 - 125 um) = 19.2**  
- **% Very Fine sand (62.5 - 125 um) = 5.17**  
- **% Clay (0-3.9 um) = 22.5**  
- **% Silt (3.91-31 um) = 51.64**  
- **% Coarse Silt (31 - 62.5 um) = 19.2**  
- **% Fine sand (125-250 um) = .03**  
- **% Medium sand (250-500 um) = .23**  
- **% Coarse sand (500-1000 um) = .71**  
- **% Very Coarse sand (1000 - 2000 um) = .53**

**Wentworth**  
- **% Clay (0-3.9 um) = 22.5**  
- **% Silt (3.91-31 um) = 5.17**  
- **% Coarse Silt (31 - 62.5 um) = 19.2**  
- **% Very Fine sand (62.5 - 125 um) = 5.17**  
- **% Fine sand (125-250 um) = .03**  
- **% Medium sand (250-500 um) = .23**  
- **% Coarse sand (500-1000 um) = .71**  
- **% Very Coarse sand (1000 - 2000 um) = .53**

**Notes:**

---

**Malvern Instruments Ltd.**  
**Malvern, UK**  
**Mastersizer 2000 Ver. 5.22**  
**Serial Number: MAL101534**  
**Record Number: 692**

---

**File name:** DAMOS.mea
Grain-Size Analysis Report

Sample: 15-1-F - Average
Source: DAMOS
Cruise: DAMOS

USGS
% Clay (0-2 um) = 11.94
% Fine Silt (2-3.9 um) = 9.69
% Coarse Silt (31-62.5 um) = 20.11
% Very Fine sand (62.5-125 um) = .23
% Medium sand (250-500 um) = .23
% Fine sand (125-250 um) = .23
% Coarse sand (500-1000 um) = .77
% Very Coarse sand (1000-2000 um) = .56

Wentworth
% Clay (0-3.9 um) = 21.63
% Silt (3.91-31 um) = 49.31
% Coarse Silt (31-62.5 um) = 20.11
% Very Fine sand (62.5-125 um) = 7.19
% Medium sand (250-500 um) = .23
% Fine sand (125-250 um) = .23
% Coarse sand (500-1000 um) = .77
% Very Coarse sand (1000-2000 um) = .56

Notes:
- Malvern Instruments Ltd.
- Mastersizer 2000 Ver. 5.22
- Serial Number: MAL101534
- File name: DAMOS.mea
- Record Number: 696
Grain-Size Analysis Report

Sample: 16-1-A - Average
Source: DAMOS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water
Dispersant RI: 0.000
RI: 1.330
Absorption: 0
Inclusive Kurtosis = 0.87 phi (Platykurtic)
Inclusive Mean = 6.59 phi (Silt)

Inclusive SD (Sorting Coeff.) = 1.97 phi (Poorly Sorted)
Inclusive Skewness = -0.16 (Coarse Skewed)

% Clay (0-2 um) = 13.8
% Fine Silt (2-3.9 um) = 11.47
% Very Fine sand (62.5 - 125 um) = 4.94
% Medium sand (250-500 um) = .23
% Coarse sand (500-1000 um) = .99
% Very Coarse sand (1000 - 2000 um) = .74

% Clay (0-3.9 um) = 25.27
% Silt (3.91-31 um) = 51.66
% Coarse Silt (31 - 62.5 um) = 16.08
% Very Fine sand (62.5 - 125 um) = 4.94
% Fine sand (125-250 um) = .09
% Medium sand (250-500 um) = .23
% Coarse sand (500-1000 um) = .99
% Very Coarse sand (1000 - 2000 um) = .74

D[4,3] = 37um = 4.76phi
D[0.5] = 12.06um = 6.37phi
Kurtosis = 76.41

Skewness = 8.32

D[0.84] = 40.18um = 4.64phi

Standard Deviation = 13.79 um = 2.86phi

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 576
Grain-Size Analysis Report

Sample: 16-1-B - Average  
Source: DAMOS  
Cruise:  

SOP Name: DAMOS  
Measured by: Administrator  
Measured: Wednesday, August 12, 2009 11:28:15 AM

Particle Name: Fraunhofer  
Dispersant Name: Water  
Dispersant RI: 0.000  
Absorption: 0  
Inclusive SD (Sorting Coeff.) = 2.36 phi (Very Poorly Sorted)  
Inclusive Kurtosis = 1.21 phi (Leptokurtic)  
Inclusive Mean = 6.44 phi (Silt)

<table>
<thead>
<tr>
<th>Size Hi</th>
<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
<th>Size Hi</th>
<th>Size Lo</th>
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<th>% Below</th>
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<tbody>
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<td>phi um</td>
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<td>phi um</td>
<td>% In</td>
<td>% Below</td>
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<td>-0.5 (1414.21)</td>
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<td>100</td>
<td>8.0 (3.90)</td>
<td>8.5 (2.76)</td>
<td>5.89</td>
<td>23.52</td>
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<td>0.5 (707.10)</td>
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<td>9.0 (1.95)</td>
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<td>10.0 (0.98)</td>
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<td>1.0 (500.00)</td>
<td>1.5 (353.55)</td>
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<td>10.5 (0.69)</td>
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<td>2.5 (176.78)</td>
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<td>3.5 (88.39)</td>
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<td>14.5 (0.043)</td>
<td>15.0 (0.030)</td>
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<td>6.0 (15.63)</td>
<td>6.5 (11.05)</td>
<td>8.93</td>
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<td>7.0 (7.81)</td>
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<tr>
<td>7.5 (5.52)</td>
<td>8.0 (3.90)</td>
<td>6.47</td>
<td>29.99</td>
<td>15.0 (0.030)</td>
<td>15.5 (0.020)</td>
<td>0</td>
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</tbody>
</table>

Notes:

D[4,3] = 63.61 μm = 3.97 phi  
D[v,0.5] = 13.4 μm = 6.22 phi  
Kurtosis = 28.2  
Skewness = 5.05  
Standard Deviation = 198.23 μm = 2.33 phi  

Obscuration = 13.93  
Dispersant Name: Fraunhofer

Inclusive Kurtosis = 1.21 phi (Leptokurtic)  
Inclusive Mean = 6.44 phi (Silt)  

Volume (%)

0.01 0.1 1 10 100 1000 3000

Particle Size Distribution
Grain-Size Analysis Report

Sample: 16-1-C - Average
Source: USGS
Cruise: Administrator

Dispersant Name: Fraunhofer
Dispersant RI: 0.000
Inclusive SD (Sorting Coeff.) = 1.95 phi (Poorly Sorted)

Particle Name: Fraction
Inclusive Kurtosis = .87 phi (Platykurtic)

Dispersant Name: Water
Inclusive Mean = 6.64 phi (Silt)

Size Hi | Size Lo (um) | % In | % Below
--- | --- | --- | ---
D[4.3] = 44.31um = 4.5phi | D[v,0.5] = 11.7um = 6.42phi | Kurtosis = 49.55
D[v,0.05] = .36um = 10phi | D[v,0.84] = 38.3um = 4.71phi | Skewness = 6.84
D[v,0.16] = 2.25um = 8.79phi | D[v,0.95] = 69.66um = 3.84phi | Standard Deviation = 170.95 um = 2.55phi

Notes:

- d (0.1) : 1.507 um
- d (0.5) : 11.700 um
- d (0.9) : 49.748

--- 16-1-C - Average, Wednesday, August 12, 2009 11:36:32 AM
Particle Size Distribution

<table>
<thead>
<tr>
<th>Size Hi (um)</th>
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<td>0.1</td>
<td>0.001</td>
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<td>100</td>
<td>1000</td>
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Notes:

- Inclusive SD (Sorting Coeff.) = 1.97 phi (Poorly Sorted)
- Inclusive Skewness = 0.2 (Coarse Skewed)
- Inclusive Kurtosis = 6.58 phi (Silt)

DAMOS results:

- % Coarse Silt (31 - 62.5 um) = 17.15%
- % Very Fine sand (62.5 - 125 um) = 1.5%
- % Fine sand (125 - 250 um) = 0.29%
- % Medium sand (250 - 500 um) = 0.07%
- % Fine Silt (2 - 3.9 um) = 10.95%
- % Coarse Silt (31 - 62.5 um) = 4.52%
- % Very Fine sand (62.5 - 125 um) = 3.87%
- % Coarse sand (500 - 1000 um) = 0.36%
- % Very Coarse sand (1000 - 2000 um) = 0.33%

Grain-size analysis by Malvern Instruments Ltd.
## Grain-Size Analysis Report

**Sample:** 16-1-F - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**Measured by:** Administrator  
**Measured:** Wednesday, August 12, 2009 11:50:55 AM

### Particle Size Distribution

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<tr>
<th>Particle Name: Fraunhofer</th>
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<td>Dispersant Name: Water</td>
<td>Dispersant RI: 1.330</td>
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- **D[4,3] = 20.79um = 5.59phi**  
- **D[v,0.5] = 12.92um = 6.27phi**  
- **D[v,0.16] = 2.34um = 8.74phi**

- **Kurtosis** = 2.33  
- **Skewness** = 1.54  
- **Standard Deviation = 21.88 um = 5.51phi**

- **Inclusive SD (Sorting Coeff.) = 1.96 phi (Poorly Sorted)**  
- **Inclusive Skewness = -0.2 (Coarse Skewed)**  
- **Inclusive Mean = 6.53 phi (Silt)**

### USGS

- % Clay (0-2 um) = 13.6  
- % Fine Silt (2-3.9 um) = 11  
- % Coarse Silt (31 - 62.5 um) = 18.64  
- % Very Fine sand (62.5 - 125 um) = 6.1

- **d (0.1) : 1.544 um**  
- **d (0.5) : 12.924 um**  
- **d (0.9) : 52.103 um**

### Wentworth

- % Clay (0-3.9 um) = 24.6  
- % Silt (3.91-31 um) = 50.63  
- % Medium sand (250-500 um) = 0  
- % Coarse sand (500-1000 um) = 0

- % Very Fine sand (62.5 - 125 um) = 6.1

- **Inclusive Mean = 6.53 phi (Silt)**

### Particle Size Distribution

![Particle Size Distribution Graph](image)

**Notes:**
- d (0.1) : 1.544 um  
- d (0.5) : 12.924 um  
- d (0.9) : 52.103 um

---

**Table:**

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<thead>
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<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
<th>Size Hi</th>
<th>Size Lo</th>
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**Notes:**

- **d (0.1) : 1.544 um**  
- **d (0.5) : 12.924 um**  
- **d (0.9) : 52.103 um**

---

**Malvern Instruments Ltd.**  
Malvern, UK  
**Mastersizer 2000 Ver. 5.22**  
**Serial Number : MAL101534**  
**Record Number: 596**

---

**File name: DAMOS.mea**
Grain-Size Analysis Report

Sample: 16-1-T1 - Average
Source: DAMOS
Cruise: DAMOS

D[4,3] = 33.77um = 4.89phi
D[v,0.5] = 14.97um = 6.06phi
D[v,0.16] = 2.67um = 8.55phi

% Clay (0-3.9 um) = 21.89
% Silt (3.91-31 um) = 50.36
% Fine Silt (2-3.9 um) = 9.89
% Coarse Silt (31 - 62.5 um) = 19.46
% Very Fine sand (62.5 - 125 um) = 6.71

D[4,3] = 33.77um = 4.89phi
D[v,0.5] = 14.97um = 6.06phi
D[v,0.16] = 2.67um = 8.55phi

% Clay (0-3.9 um) = 21.89
% Silt (3.91-31 um) = 50.36
% Fine Silt (2-3.9 um) = 9.89
% Coarse Silt (31 - 62.5 um) = 19.46
% Very Fine sand (62.5 - 125 um) = 6.71

% Inclusive SD (Sorting Coeff.) = 1.96 phi (Poorly Sorted)
Inclusive Kurtosis = .89 phi (Platykurtic)
Inclusive Mean = 6.36 phi (Silt)

Notes:

Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 600

Wednesday, August 12, 2009
11:55:28 AM
Grain-Size Analysis Report

Sample: 16-1-T2 - Average
Source: USGS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water
Particle RI: 0.000
Dispersant RI: 1.330
Absorption: 0

D[4,3] = 46.11µm = 4.44φi
D[v,0.5] = 14.65µm = 6.09φi
D[v,0.16] = 2.53µm = 8.63φi
D[v,0.05] = 1.03µm = 9.83φi

Inclusive SD (Sorting Coeff.) = 1.96 φi (Poorly Sorted)
Inclusive Kurtosis = 0.88 φi (Platykurtic)
Inclusive Mean = 6.42 φi (Silt)

USGS
% Clay (0-2 um) = 12.71
% Silt (2-3.9 um) = 10.02
% Fine Silt (2-3.9 um) = 10.02
% Medium sand (250-500 um) = 0.14
% Fine sand (125-250 um) = 0
% Clay (0-3.9 um) = 22.73
% Silt (3.91-31 um) = 50.7
% Coarse Silt (31 - 62.5 um) = 19.19
% Very Fine sand (62.5 - 125 um) = 4.84
% Very Coarse sand (1000 - 2000 um) = 1.3

Notes:

-1 (2000.00) -0.5 (1414.21) 0.35 100 8.0 (3.90) 8.5 (2.76) 5.44 22.76
-0.5 (1414.21) 0.0 (1000.00) 0.95 99.65 8.5 (2.76) 9.0 (1.95) 4.93 17.32
0.0 (1000.00) 0.5 (707.10) 0.78 98.7 9.0 (1.95) 9.5 (1.38) 4.32 12.39
0.5 (707.10) 1.0 (500.00) 0.32 97.92 9.5 (1.38) 10.0 (0.98) 3.5 8.06
1.0 (500.00) 1.5 (353.55) 0.11 97.6 10.0 (0.98) 10.5 (0.69) 2.48 4.56
1.5 (353.55) 2.0 (250.00) 0.03 97.49 10.5 (0.69) 11.0 (0.49) 1.45 2.08
2.0 (250.00) 2.5 (176.78) 0 97.46 11.0 (0.49) 11.5 (0.35) 0.58 0.63
2.5 (176.78) 3.0 (125.00) 0 97.46 11.5 (0.35) 12.0 (0.24) 0.05 0.05
3.0 (125.00) 3.5 (88.39) 0.83 97.46 12.0 (0.24) 12.5 (0.17) 0 0
3.5 (88.39) 4.0 (62.50) 4.01 96.63 12.5 (0.17) 13.0 (0.12) 0 0
4.0 (62.50) 4.5 (44.19) 8.02 92.62 13.0 (0.12) 13.5 (0.086) 0 0
4.5 (44.19) 5.0 (31.25) 10.91 84.61 13.5 (0.086) 14.0 (0.061) 0 0
5.0 (31.25) 5.5 (22.10) 11.52 73.7 14.0 (0.061) 14.5 (0.043) 0 0
5.5 (22.10) 6.0 (15.63) 10.42 62.18 14.5 (0.043) 15.0 (0.030) 0 0
6.0 (15.63) 6.5 (11.05) 8.84 51.76 15.0 (0.030) 15.5 (0.020) 0 0
6.5 (11.05) 7.0 (7.81) 7.55 42.91
7.0 (7.81) 7.5 (5.52) 6.64 35.36
7.5 (5.52) 8.0 (3.90) 5.97 28.73

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
Record Number: 604
### Grain-Size Analysis Report

**Sample:** 16-1-T3 - Average  
**Source:**  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Administrator  
**Measured:** Wednesday, August 12, 2009 12:06:22 PM

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<th>Dispersant Name</th>
<th>Particle RI</th>
<th>Dispansant RI</th>
<th>Absorption</th>
<th>Obscuration</th>
<th>Inclusive SD (Sorting Coefficient)</th>
<th>Inclusive Kurtosis</th>
<th>Inclusive Skewness</th>
<th>Inclusive Mean</th>
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<tbody>
<tr>
<td>Coarse Silt (31 - 62.5 um)</td>
<td></td>
<td>18.28</td>
<td>3.01phi</td>
<td></td>
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<tr>
<td>Very Fine sand (62.5 - 125 um)</td>
<td></td>
<td>5.88</td>
<td>3.39phi</td>
<td></td>
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<tr>
<td>Fine sand (125-250 um)</td>
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<td>.09</td>
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<tr>
<td>Medium sand (250-500 um)</td>
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<td>.33</td>
<td>4.37phi</td>
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<tr>
<td>Coarse sand (500-1000 um)</td>
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<td>.87</td>
<td>4.87phi</td>
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<tr>
<td>Very Coarse sand (1000 - 2000 um)</td>
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<td>.57</td>
<td>5.37phi</td>
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<table>
<thead>
<tr>
<th>Particle Name</th>
<th>Dispersant Name</th>
<th>Volume (%)</th>
<th>Source</th>
<th>Measured by</th>
<th>Cruise</th>
<th>Administrator</th>
<th>Grasshofer</th>
<th>Water</th>
<th>Fraunhofer</th>
<th>Wentworth</th>
<th>USGS</th>
<th>Wentworth</th>
<th>Wentworth</th>
<th>Wentworth</th>
<th>Wentworth</th>
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<tbody>
<tr>
<td>Clay (0-2 um)</td>
<td></td>
<td>12.98</td>
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<tr>
<td>Fine Silt (2-3.9 um)</td>
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<td>10.74</td>
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<tr>
<td>Silt (3.91-31 um)</td>
<td></td>
<td>50.27</td>
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<td></td>
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<tr>
<td>Coarse Silt (31 - 62.5 um)</td>
<td></td>
<td>18.28</td>
<td></td>
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</tr>
<tr>
<td>Very Fine sand (62.5 - 125 um)</td>
<td></td>
<td>5.88</td>
<td></td>
<td></td>
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</tbody>
</table>

**Notes:**

- Inclusive Mean = 6.47 phi (Silt)
- Inclusive Kurtosis = .86 phi (Platykurtic)
- Inclusive Skewness = -0.2 (Coarse Skewed)
- Inclusive SD (Sorting Coefficient) = 1.98 phi (Poorly Sorted)

---

**Particle Size Distribution**

---

**Size Hi** | **Size Lo** | **% In** | **% Below** | **Size Hi** | **Size Lo** | **% In** | **% Below**
---|---|---|---|---|---|---|---
-1 | (2000.00) | -0.5 | (1414.21) | 0.18 | 100 | 8.0 | (3.90) | 5.85 | 23.74
-0.5 | (1414.21) | 0.0 | (1000.00) | 0.39 | 99.82 | 8.5 | (2.76) | 5.25 | 17.9
0 | (1000.00) | 0.5 | (707.10) | 0.47 | 99.34 | 9.0 | (1.95) | 4.51 | 12.64
0.5 | (707.10) | 1.0 | (500.00) | 0.4 | 98.86 | 9.5 | (1.38) | 3.57 | 8.13
1.0 | (500.00) | 1.5 | (353.55) | 0.26 | 98.56 | 10.0 | (0.98) | 2.49 | 4.56
1.5 | (353.55) | 2.0 | (250.00) | 0.06 | 98.29 | 10.5 | (0.69) | 1.44 | 2.06
2.0 | (250.00) | 2.5 | (176.78) | 0 | 98.23 | 11.0 | (0.49) | 0.57 | 0.62
2.5 | (176.78) | 3.0 | (125.00) | 0.09 | 98.23 | 11.5 | (0.35) | 0.05 | 0.05
3.0 | (125.00) | 3.5 | (88.39) | 1.48 | 98.15 | 12.0 | (0.24) | 0 | 0
3.5 | (88.39) | 4.0 | (62.50) | 4.4 | 96.67 | 12.5 | (0.17) | 0 | 0
4.0 | (62.50) | 4.5 | (44.19) | 7.84 | 92.27 | 13.0 | (0.12) | 0 | 0
4.5 | (44.19) | 5.0 | (31.25) | 10.19 | 84.42 | 13.5 | (0.086) | 0 | 0
5.0 | (31.25) | 5.5 | (22.10) | 10.68 | 74.23 | 14.0 | (0.061) | 0 | 0
5.5 | (22.10) | 6.0 | (15.63) | 9.9 | 63.55 | 14.5 | (0.043) | 0 | 0
6.0 | (15.63) | 6.5 | (11.05) | 8.76 | 53.65 | 15.0 | (0.030) | 0 | 0
6.5 | (11.05) | 7.0 | (7.81) | 7.77 | 44.89 | 15.5 | (0.020) | 0 | 0
7.0 | (7.81) | 7.5 | (5.52) | 6.99 | 37.12 | 16.0 | (0.010) | 0 | 0
7.5 | (5.52) | 8.0 | (3.90) | 6.39 | 30.13 | 16.5 | (0.000) | 0 | 0

---

Notes:

- Malvern Instruments Ltd.
- Mastersizer 2000 Ver. 5.22
- Serial Number: MAL101534
- Record Number: 608
Grain-Size Analysis Report

Sample: 16-1-T4 - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Administrator
Measured: Wednesday, August 12, 2009

<table>
<thead>
<tr>
<th>Particle Name</th>
<th>Particle RI</th>
<th>Inclusive SD (Sorting Coeff.)</th>
<th>Inclusive Kurtosis</th>
<th>Inclusive Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispersant Name</td>
<td>Dispersant RI</td>
<td>% Clay (0-2 um)</td>
<td>% Clay (0.3-3.9 um)</td>
<td>% Silt (3.91-31 um)</td>
</tr>
<tr>
<td>Fraunhofer</td>
<td>0.000</td>
<td>11.75</td>
<td>21.71</td>
<td>49.62</td>
</tr>
<tr>
<td>Water</td>
<td>1.330</td>
<td>9.96</td>
<td>8.49</td>
<td>99.61</td>
</tr>
</tbody>
</table>

| D[4,3] | 29.32um | 5.09phi | 1.77 | 0.32 |
| D[v,0.5] | 15.53um | 6.01phi | 0.11 |
| D[v,0.16] | 8.53um | 3.75phi | 0.24 |

<table>
<thead>
<tr>
<th>Wet Size</th>
<th>Inclusive SD (Sorting Coeff.)</th>
<th>Inclusive Kurtosis</th>
<th>Inclusive Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>D[v,0.05]</td>
<td>1.09um</td>
<td>8.84phi</td>
<td>.19</td>
</tr>
<tr>
<td>D[v,0.09]</td>
<td>45.79um</td>
<td>4.45phi</td>
<td>10.23</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>USGS</th>
<th>Wentworth</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Clay (0-2 um) = 11.75</td>
<td>% Fine sand (125-250 um) = .19</td>
</tr>
<tr>
<td>% Fine Silt (2.3-9.9 um) = 9.96</td>
<td>% Medium sand (250-500 um) = .28</td>
</tr>
<tr>
<td>% Medium Silt (9.1-31 um) = 49.62</td>
<td>% Coarse sand (500-1000 um) = .59</td>
</tr>
<tr>
<td>% Coarse Silt (31-62.5 um) = 20.57</td>
<td>% Very Coarse sand (1000-2000 um) = .12</td>
</tr>
<tr>
<td>% Very Fine sand (62.5-125 um) = 6.93</td>
<td></td>
</tr>
</tbody>
</table>

---

Notes:

- Dispersant Name: Fraunhofer
- Dispersant RI: 0.000
- Absorption: 0
- Inclusive SD (Sorting Coeff.) = 1.94 phi (Poorly Sorted)
- Inclusive Kurtosis = .87 phi (Platykurtic)
- Inclusive Mean = 6.33 phi (Silt)

---

Notes:

- Malvern Instruments Ltd.
- Mastersizer 2000 Ver. 5.22
- Serial Number: MAL101534
- Record Number: 612
# Grain-Size Analysis Report

**Sample:** 16-2-A - Average  
**Source:**  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Administrator  
**Measured:** Wednesday, August 12, 2009 12:46:00 PM

## Particle Size Distribution

<table>
<thead>
<tr>
<th>D[4,3]</th>
<th>D[v,0.5]</th>
<th>D[v,0.16]</th>
<th>D[v,0.05]</th>
<th>D[v,0.01]</th>
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</thead>
<tbody>
<tr>
<td>32.69um</td>
<td>16.49um</td>
<td>2.83um</td>
<td>1.11um</td>
<td>0.42um</td>
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</tbody>
</table>

- **Inclusive SD (Sorting Coeff.) = 2.01 phi (Very Poorly Sorted)**
- **Inclusive Skewness = -0.22 (Coarse Skewed)**
- **Inclusive Kurtosis = .9 phi (Mesokurtic)**

## USGS

<table>
<thead>
<tr>
<th>Particle Size (µm)</th>
<th>% Clay (0-3.9 um)</th>
<th>% Silt (3.91-31 um)</th>
<th>% Coarse Silt (31 - 62.5 um)</th>
<th>% Very Fine sand (62.5 - 125 um)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01</td>
<td>11.34</td>
<td>48.23</td>
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<td>0.1</td>
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<td>0.48</td>
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<td>7.0</td>
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<td>23.5</td>
<td>24.0</td>
<td>24.0</td>
<td>0.48</td>
</tr>
</tbody>
</table>

## Notes:

- **Dispersant Name:** Fraunhofer
- **Dispersant RI:** 0.000
- **Absorption:** 0
- **Obscuration:** 11.78
- **Kurtosis = 80.3**
- **Skewness = 7.94**
- **Inclusive Mean = 6.23 phi (Silt)**
# Grain-Size Analysis Report

**Sample:** 16-2-B - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Administrator  
**Measured:** Wednesday, August 12, 2009 12:50:41 PM

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Fraunhofer</th>
<th>Particle RI:</th>
<th>0.000</th>
<th>Absorption:</th>
<th>0</th>
<th>Obscuration:</th>
<th>16.59</th>
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</thead>
<tbody>
<tr>
<td>Dispersant Name:</td>
<td>Water</td>
<td>Dispersant RI:</td>
<td>1.330</td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **D[4,3] = 37.5um = 4.74phi**  
- **D[0.05] = 1.08um = 9.65phi**  
- **D[0.16] = 2.8um = 8.46phi**

**USGS**

- **% Clay (0-2 um) = 11.57**
- **% Fine Silt (2-3.9 um) = 9.3**
- **% Coarse Silt (31 - 62.5 um) = 21.14**
- **% Very Fine sand (62.5 - 125 um) = 9.24**

**Wentworth**

- **% Clay (0-3.9 um) = 20.87**
- **% Silt (3.91-31 um) = 46.47**
- **% Medium sand (250-500 um) = .4**
- **% Coarse sand (125-250 um) = .65**
- **% Very fine sand (62.5 - 125 um) = 9.24**
- **% Fine sand (125-250 um) = .65**
- **% Fine sand (250-500 um) = .4**
- **% Coarse sand (500-1000 um) = .87**
- **% Very coarse sand (1000 - 2000 um) = .35**

**Inclusive SD (Sorting Coeff.) = 2.02 phi (Very Poorly Sorted)**  
**Inclusive Skewness = -0.25 (Coarse Skewed)**  
**Inclusive Kurtosis = .88 phi (Platykurtic)**  
**Inclusive Mean = 6.2 phi (Silt)**

**Volume (%)**  
**Particle Size (µm)**

---

**Notes:**

**Malvern Instruments Ltd.**  
**Malvern, UK**  
**Mastersizer 2000 Ver. 5.22**  
**Serial Number : MAL101534**  
**Record Number: 644**  
**File name: DAMOS.mea**

---

**16-2-B - Average, Wednesday, August 12, 2009 12:50:41 PM**
Grain-Size Analysis Report

Sample: 16-2-C - Average
Source: DAMOS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water

Particle RI: 0.000
Dispersant RI: 1.330

Absorption: 0

Obscuration: 17.71

D[4,3] = 40.1um = 4.64phi
D[ν,0.5] = 17.14um = 5.87phi
Kurtosis = 86.16

D[ν,0.16] = 85.21um = 3.55phi
Skewness = 8.73

Standard Deviation = 128.4 um = 2.96phi

Inclusive SD (Sorting Coeff.) = 2.01 phi (Very Poorly Sorted)
Inclusive Skewness = -0.26 (Coarse Skewed)
Inclusive Kurtosis = .89 phi (Platykurtic)

Inclusive Mean = 6.23 phi (Silt)

USGS
% Clay (0-2 um) = 11.8
% Fine Silt (2-3.9 um) = 9.3
% Clay (0.9-3.9 um) = 21.09

Wentworth
% Silt (3.91-31 um) = 47.22
% Coarse Silt (31 - 62.5 um) = 21.2
% Very Fine sand (62.5 - 125 um) = 8.35
% Fine sand (125-250 um) = .35
% Medium sand (250-500 um) = .28
% Coarse sand (500-1000 um) = .88
% Very Coarse sand (1000 - 2000 um) = .62

-1 (2000.00) -0.5 (1414.21) 0.21 100
-0.5 (1414.21) 0.0 (1000.00) 0.42 99.79
0.0 (1000.00) 0.5 (707.10) 0.48 99.38
0.5 (707.10) 1.0 (500.00) 0.4 98.99
1.0 (500.00) 1.5 (353.55) 0.25 98.49
1.5 (353.55) 2.0 (250.00) 0.03 98.24
2.0 (250.00) 2.5 (176.78) 0 98.21
2.5 (176.78) 3.0 (125.00) 0.35 98.21
3.0 (125.00) 3.5 (88.39) 2.42 97.86
3.5 (88.39) 4.0 (62.50) 5.93 95.44
4.0 (62.50) 4.5 (44.19) 9.49 89.51
4.5 (44.19) 5.0 (31.25) 11.45 80.03
5.0 (31.25) 5.5 (22.10) 11.25 68.58
5.5 (22.10) 6.0 (15.63) 9.76 57.32
6.0 (15.63) 6.5 (11.05) 8.11 47.56
6.5 (11.05) 7.0 (7.81) 6.85 39.46
7.0 (7.81) 7.5 (5.52) 6.02 32.61
7.5 (5.52) 8.0 (3.90) 5.48 26.59
8.0 (3.90) 8.5 (2.76) 5.04 21.12
8.5 (2.76) 9.0 (1.95) 4.58 16.08
9.0 (1.95) 9.5 (1.38) 4.01 11.5
9.5 (1.38) 10.0 (0.98) 3.24 7.49
10.0 (0.98) 10.5 (0.69) 2.31 4.25
10.5 (0.69) 11.0 (0.49) 1.35 1.94
11.0 (0.49) 11.5 (0.35) 0.54 0.59
11.5 (0.35) 12.0 (0.24) 0.05 0.05
12.0 (0.24) 12.5 (0.17) 0 0
12.5 (0.17) 13.0 (0.12) 0 0
13.0 (0.12) 13.5 (0.086) 0 0
13.5 (0.086) 14.0 (0.061) 0 0
14.0 (0.061) 14.5 (0.043) 0 0
14.5 (0.043) 15.0 (0.030) 0 0
15.0 (0.030) 15.5 (0.020) 0 0

Notes:
### Grain-Size Analysis Report

**Sample:** 16-2-D - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Administrator  
**Measured:** Wednesday, August 12, 2009 1:19:04 PM

#### Particle Size Distribution

- **D[4,3]** = 35.76um = 4.81phi  
- **D[v,0.5]** = 14um = 6.16phi  
- **D[v,0.05]** = 1.03um = 9.92phi  
- **D[v,0.16]** = 2.49um = 8.65phi  

**Inclusive SD (Sorting Coeff.)** = 1.95 phi (Poorly Sorted)  
**Inclusive Kurtosis** = .87 phi (Platykurtic)  
**Inclusive Mean** = 6.45 phi (Silt)

![Particle Size Distribution Graph](image)

#### Summary of Results:

- **% Coarse Silt (31 - 62.5 um)** = 18.58
- **% Very Fine sand (62.5 - 125 um)** = .27
- **% Fine sand (125-250 um)** = .04
- **% Medium sand (250-500 um)** = .27
- **% Coarse sand (500-1000 um)** = .73
- **% Very Coarse sand (1000 - 2000 um)** = .66

**Notes:**

- **Obscuration:** 16.98
- **Kurtosis:** 94.02
- **Skewness:** 9.2
- **D[k,0.5]** = 14um = 6.16phi
- **D[k,0.05]** = 1.03um = 9.92phi
- **D[k,0.16]** = 2.49um = 8.65phi

**Detailed Table: Partition Size Distribution**

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<th>% In</th>
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**Notes:**

- Malvern Instruments Ltd.
- Mastersizer 2000 Ver. 5.22
- Serial Number: MAL101534
- File name: DAMOS.mea
- Record Number: 652
Grain-Size Analysis Report

Sample: 16-2-E - Average  
Source:  
Cruise: DAMOS  
SOP Name: DAMOS  
Measured by: Administrator  
Measured: Wednesday, August 12, 2009 1:26:05 PM

Particle Name: Fraunhofer  
Dispersant Name: Water  
Particle RI: 0.000  
Absorption: 0  
Dispersant RI: 1.330  
Obscuration: 18.91

D[4,3] = 20.53um = 5.61phi  
D[v.0.5] = 12.57um = 6.31phi  
Kurtosis = 63.64

D[v.0.05] = 1um = 9.97phi  
D[v.0.84] = 39.64um = 4.66phi  
Skewness = 5.04

D[v.0.16] = 2.34um = 8.74phi  
D[v.0.95] = 64.87um = 3.95phi  
Standard Deviation = 24.84 um = 5.33phi

Inclusive Kurtosis = .85 phi (Platykurtic)  
Inclusive Skewness = -.2 (Coarse Skewed)  
Inclusive Mean = 6.57 phi (Silt)

USGS
% Clay (0-2 um) = 13.59  
% Fine Silt (2-3.9 um) = 11.19

d (0.1) : 1.550 um  
d (0.5) : 12.569

% Clay (0-3.9 um) = 24.78  
% Silt (3.91-31 um) = 51.88

% Coarse Silt (31 - 62.5 um) = 17.74  
% Very Fine sand (62.5 - 125 um) = 5.41

DAMOS
Wentworth
% Fine sand (125-250 um) = .07  
% Medium sand (250-500 um) = .12

% Very Coarse sand (1000 - 2000 um) = 0  
% Very Very Coarse sand (10000 - 20000 um) = 0

Grain Size Distribution

Notes:

File name: DAMOS.meas  
Record Number: 656
Grain-Size Analysis Report

Sample: 16-2-F - Average
Source: DAMOS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water
Dispersant RI: 0.000
Absorption: 0

D[4,3] = 34.93um = 4.84phi
D[v,0.5] = 12.84um = 6.28phi
D[v,0.16] = 2.44um = 8.66phi

Inclusive SD (Sorting Coeff.) = 1.88 phi (Poorly Sorted)
Inclusive Skewness = -0.22 (Coarse Skewed)
Inclusive Kurtosis = .87 phi (Platykurtic)

Inclusive Mean = 6.57 phi (Silt)

% Clay (0-2 um) = 12.96
% Fine Silt (2-3.9 um) = 11.04
% Coarse Silt (31 - 62.5 um) = 17.29
% Very Fine sand (62.5 - 125 um) = 3.12
% Fine sand (125-250 um) = 0
% Medium sand (250-500 um) = .11
% Coarse sand (500-1000 um) = .82
% Very Coarse sand (1000 - 2000 um) = .82

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 660
Grain-Size Analysis Report

Sample: 16-2-G - Average
Source: DAMOS
Cruise: DAMOS

Notes:

% Fine Silt (2-3.9 um) = 10.62
% Clay (0-2 um) = 12.75

D[4,3] = 41.54um = 4.59phi
D[v,0.5] = 13.66um = 6.19phi
Kurtosis = 66.12
Skewness = 7.68

Inclusive Kurtosis = .89 phi (Platykurtic)
Inclusive Skewness = -0.18 (Coarse Skewed)
Inclusive Mean = 6.45 phi (Silt)

USGS
% Clay (0-2 um) = 12.75
% Fine Silt (2-3.9 um) = 10.62
% Silt (3.91-31 um) = 50.62
% Coarse Silt (31 - 62.5 um) = 17.49
% Very Fine sand (62.5 - 125 um) = 5.76

Wentworth
% Fine sand (125-250 um) = .22
% Medium sand (250-500 um) = .56
% Coarse sand (500-1000 um) = 1.21
% Very Coarse sand (1000 - 2000 um) = .77
Grain-Size Analysis Report

Sample: 16-2-H - Average
Source: DAMOS
Cruise: DAMOS

Notes:

Particle Name: Fraunhofer
Dispersant Name: Water

Inclusive SD (Sorting Coeff.) = 1.97 phi (Poorly Sorted)
Inclusive Kurtosis = .87 phi (Platykurtic)
Inclusive Mean = 6.51 phi (Silt)

% Clay (0-2 um) = 13.26
% Fine Silt (2-3.9 um) = 10.89
% Coarse Silt (31-62.5 um) = 17.42
% Very Fine sand (62.5-125 um) = 5.34
% Coarse sand (500-1000 um) = .94
% Very Coarse sand (1000 - 2000 um) = .69

D[4,3] = 37.25um = 4.75phi
D[v,0.5] = 13.12um = 6.25phi
Kurtosis = 80.55

Inclusive Skewness = -0.19 (Coarse Skewed)
Inclusive Mean = 6.51 phi (Silt)

USGS
% Clay (0-2 um) = 13.26
% Fine Silt (2-3.9 um) = 10.89
% Silt (3.91-31 um) = 51.04
% Coarse Silt (31-62.5 um) = 17.42
% Very Fine sand (62.5-125 um) = 5.34
% Coarse sand (500-1000 um) = .94
% Very Coarse sand (1000 - 2000 um) = .69

Wentworth
% Fine sand (125-250 um) = .1
% Medium sand (250-500 um) = .32
% Coarse sand (500-1000 um) = .94
% Very Coarse sand (1000 - 2000 um) = .69

Notes:
Grain-Size Analysis Report

Sample: 16-2-1 - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured: Wednesday, August 12, 2009 1:53:58 PM

Particle Name: Fraunhofer
Dispersant Name: Water
Particle RI: 0.000
Dispersant RI: 1.330
Absorption: 0
Obscuration: 17.47

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Notes:

- Inclusive SD (Sorting Coeff.) = 1.94 phi (Poorly Sorted)
- Inclusive Kurtosis = .87 phi (Platykurtic)
- Inclusive Mean = 6.53 phi (Silt)

- Obscuration:
  - D[4,3] = 39.43um = 4.66phi
  - D[v,0.5] = 13.13um = 6.25phi
  - D[v,0.05] = 40.47um = 4.63phi
  - D[v,0.16] = 69.9um = 3.84phi

- Skewness = 8.09
- Kurtosis = 70.51
- Inclusive Mean = 6.53 phi (Silt)

- USGS
  - % Clay (0-2 um) = 13.22
  - % Fine Silt (2-3.9 um) = 10.83

- Wentworth
  - % Clay (0-3.9 um) = 24.06
  - % Silt (3.91-31 um) = 51.96
  - % Coarse Silt (31 - 62.5 um) = 17.47
  - % Very Fine sand (62.5 - 125 um) = 4.53

- Water
  - % Fine sand (125-250 um) = .02
  - % Medium sand (250-500 um) = .16
  - % Coarse sand (500-1000 um) = .85
  - % Very Coarse sand (1000 - 2000 um) = .97
Grain-Size Analysis Report


**Particle Name:** Fraunhofer  | **Dispersant Name:** Water  | **Particle RI:** 0.000  | **Dispersant RI:** 1.330  | **Absorption:** 0  | **Obscuration:** 18.91

- **D[4,3]** = 44.58 \(\mu\)m = 4.49phi
- **D[\nu,0.5]** = 102.0um = 6.22phi
- **D[\nu,0.16]** = 2.46um = 8.67phi
- **Standard Deviation** = 158.63 \(\mu\)m = 2.66phi

**Kurtosis** = 56.37  | **Inclusive SD (Sorting Coeff.)** = 1.99 phi (Poorly Sorted)  | **Inclusive Skewness** = -0.18 (Coarse Skewed)  | **Inclusive Mean** = 6.49 phi (Silt)

**USGS**
- % Clay (0-2 um) = 12.97
- % Fine Silt (2-3.9 um) = 10.56
- % Very Fine sand (62.5-125 um) = 16.54
- % Medium sand (250-500 um) = 0.55
- % Fine sand (125-250 um) = 0.56
- % Clay (0-3.9 um) = 23.54
- % Coarse sand (500-1000 um) = 0.98
- % Silt (3.91-31 um) = 51.76
- % Coarse Silt (31-62.5 um) = 16.54
- % Very Fine sand (62.5-125 um) = 4.78
- % Medium sand (250-500 um) = 0.55
- % Coarse sand (500-1000 um) = 1.28
- % Very Coarse sand (1000 - 2000 um) = 0.98

**Wentworth**
- % Clay (0-3.9 um) = 23.54
- % Silt (3.91-31 um) = 51.76
- % Fine sand (125-250 um) = 0.56
- % Medium sand (250-500 um) = 0.55
- % Coarse sand (500-1000 um) = 1.28
- % Very Fine sand (62.5-125 um) = 4.78
- % Medium sand (250-500 um) = 0.55
- % Coarse sand (500-1000 um) = 1.28
- % Very Coarse sand (1000 - 2000 um) = 0.98

**Notes:**
- Obscuration: 18.91
- Inclusive Kurtosis = 0.91 phi (Mesokurtic)
- Inclusive Skewness = -0.18 (Coarse Skewed)
- Inclusive Mean = 6.49 phi (Silt)

**Malvern Instruments Ltd.**
Malvern, UK
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 896
### Grain-Size Analysis Report

**Sample:** 17-1-B - Average  
**Source:** DAMOS  
**Cruise:** DAMOS

**Particle Name:** Fraunhofer  
**Dispersant Name:** Water  
**Particle RI:** 0.000  
**Dispersant RI:** 1.330  
**Absorption:** 0  
**Inclusive SD (Sorting Coeff.):** 2.49 phi (Very Poorly Sorted)  
**Inclusive Skewness:** -0.1 (Near Symmetrical)  
**Inclusive Kurtosis:** 1.13 phi (Leptokurtic)  
**Inclusive Mean:** 5.91 phi (Silt)

**USGS**  
% Clay (0-2 um) = 11.06  
% Fine Silt (2-3.9 um) = 8.73

**Wentworth**  
% Clay (0-3.9 um) = 19.79  
% Silt (3.91-31 um) = 40.16  
% Coarse Silt (31 - 62.5 um) = 20.59  
% Very Fine sand (62.5 - 125 um) = 10.6

**Dispersant Name:** Fraunhofer  
**Dispersant RI:** 1.330  
**Absorption:** 0  
**Inclusive SD (Sorting Coeff.):** 2.49 phi (Very Poorly Sorted)  
**Inclusive Skewness:** -0.1 (Near Symmetrical)  
**Inclusive Kurtosis:** 1.13 phi (Leptokurtic)  
**Inclusive Mean:** 5.91 phi (Silt)

**USGS**  
% Clay (0-2 um) = 11.06  
% Fine Silt (2-3.9 um) = 8.73

**Wentworth**  
% Clay (0-3.9 um) = 19.79  
% Silt (3.91-31 um) = 40.16  
% Coarse Silt (31 - 62.5 um) = 20.59  
% Very Fine sand (62.5 - 125 um) = 10.6

**Notes:**

- **D[4,3] = 82.1um = 3.61phi**  
- **D[v,0.5] = 21.2um = 5.56phi**  
- **Kurtosis = 23.5**  
- **Skewness = 4.63**  
- **Inclusive Kurtosis = 1.13 phi (Leptokurtic)**  
- **Inclusive Mean = 5.91 phi (Silt)**

**Malvern Instruments Ltd.**  
**Mastersizer 2000 Ver. 5.22**  
**Serial Number : MAL101534**  
**Record Number: 900**  
**File name: DAMOS.mea**
**Grain-Size Analysis Report**

**Sample:** 17-1-C - Average  
**Source:**  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Katy  
**Measured:** Friday, August 14, 2009 9:56:46 AM

---

**Particle Name:** Fraunhofer  
**Dispersant Name:** Water  
**Particle RI:** 0.000  
**Dispersant RI:** 1.330  
**Absorption:** 0

**Particle Size Distribution**

![Particle Size Distribution](image)

---

**Inclusive SD (Sorting Coeff.)** = 2.38 phi (Very Poorly Sorted)  
**Inclusive Kurtosis** = 1.16 phi (Leptokurtic)  
**Inclusive Mean** = 6.39 phi (Silt)

---

**USGS**

- % Clay (0-2 um) = 12.86  
- % Fine Silt (2-3.9 um) = 10.71

**Wentworth**

- % Clay (0-3.9 um) = 23.57  
- % Silt (3.91-31 um) = 49.44

- % Coarse Silt (31 - 62.5 um) = 13.66  
- % Very Fine sand (62.5 - 125 um) = 5.24

---

**Notes:**

- **D[4,3] = 66.64um = 3.91phi**
- **D[v,0.5] = 13.18um = 6.25phi**  
- **D[v,0.05] = 1.03um = 9.93phi**  
- **D[v,0.16] = 2.47um = 8.66phi**

- **Kurtosis = 30.35**
- **Skewness = 5.22**

---

**Malvern Instruments Ltd.**  
Malvern, UK  
Mastersizer 2000 Ver. 5.22  
Serial Number : MAL101534  
File name: DAMOS.mea  
Record Number: 904
# Grain-Size Analysis Report

**Sample:** 17-1-D - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Katy  
**Measured:** Friday, August 14, 2009 10:01:13 AM

## Particle Size Distribution

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<td>Silt (3.91-31 um)</td>
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<td>Clay (0-2 um)</td>
<td>11.91</td>
<td>97.48</td>
<td>95.79</td>
</tr>
<tr>
<td>Coarse Sand (500-1000 um)</td>
<td>3.02</td>
<td>95.79</td>
<td>93.95</td>
</tr>
<tr>
<td>Fine Sand (125-250 um)</td>
<td>4.45</td>
<td>93.95</td>
<td>92.07</td>
</tr>
<tr>
<td>Medium Sand (250-500 um)</td>
<td>3.72</td>
<td>92.07</td>
<td>90.05</td>
</tr>
<tr>
<td>Very Fine Sand (62.5 - 125 um)</td>
<td>7.68</td>
<td>90.05</td>
<td>87.63</td>
</tr>
<tr>
<td>Very Coarse Sand (1000 - 2000 um)</td>
<td>1.19</td>
<td>87.63</td>
<td>84.42</td>
</tr>
<tr>
<td>Very Fine Silt (2-3.9 um)</td>
<td>9.54</td>
<td>84.42</td>
<td>82.52</td>
</tr>
<tr>
<td>Very Fine Clay (0-2 um)</td>
<td>11.91</td>
<td>82.52</td>
<td>80.61</td>
</tr>
</tbody>
</table>

## Inclusive SD (Sorting Coeff.) = 2.56 phi (Very Poorly Sorted)  
Inclusive Kurtosis = 1.08 phi (Mesokurtic)  
Inclusive Mean = 6 phi (Silt)

## Obscuration:

- **20.94** um = 2.36 phi

## Inclusive Mean = 6 phi (Silt)

<table>
<thead>
<tr>
<th>Size Hi</th>
<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
<tr>
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<td>0.04</td>
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<tr>
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<td>0.08</td>
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<td>0.16</td>
<td></td>
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</tr>
<tr>
<td>0.16</td>
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<td>10.24</td>
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<tr>
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<td>20.48</td>
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<tr>
<td>40.96</td>
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</tr>
<tr>
<td>81.92</td>
<td>163.84</td>
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</tbody>
</table>

## Additional Notes:

- **Inclusive SD (Sorting Coeff.) = 2.56 phi (Very Poorly Sorted)**
- **Inclusive Kurtosis = 1.08 phi (Mesokurtic)**
- **Inclusive Mean = 6 phi (Silt)**
- **D[4,3] = 77.53um = 3.69phi**
- **D[v,0.5] = 16.49um = 5.92phi**
- **Kurtosis = 25.33**
- **Skewness = 4.63**
- **D[v,0.05] = 1.06um = 8.68phi**
- **D[v,0.16] = 2.71um = 8.53phi**
- **D[v,0.95] = 430.05um = 1.22phi**
- **Inclusive SD (Sorting Coeff.) = 2.56 phi (Very Poorly Sorted)**
- **Inclusive Kurtosis = 1.08 phi (Mesokurtic)**
- **Inclusive Mean = 6 phi (Silt)**
- **D[v,0.05] = 1.06um = 8.68phi**
- **D[v,0.16] = 2.71um = 8.53phi**
- **D[v,0.95] = 430.05um = 1.22phi**
- **Inclusive SD (Sorting Coeff.) = 2.56 phi (Very Poorly Sorted)**
- **Inclusive Kurtosis = 1.08 phi (Mesokurtic)**
- **Inclusive Mean = 6 phi (Silt)**

---

**Notes:**

Malvern Instruments Ltd.  
Malvern, UK  
Mastersizer 2000 Ver. 5.22  
Serial Number: MAL101534  
File name: DAMOS.mea  
Record Number: 908
### Grain-Size Analysis Report

**Sample:** 17-1-DM1 - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**Measured by:** Katy  
**Measured:** Friday, August 14, 2009 10:33:10 AM

<table>
<thead>
<tr>
<th>Particle Name: Fraction</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Dispersant RI:</th>
<th>Absorption:</th>
<th>Inclusive Kurtosis:</th>
<th>Obscuration:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse Silt (31 - 62.5 µm)</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>0.89 phi (Platykurtic)</td>
<td>22.16</td>
</tr>
<tr>
<td>Very Fine sand (62.5 - 125 µm)</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>0.89 phi (Platykurtic)</td>
<td>22.16</td>
</tr>
<tr>
<td>Fine sand (125 - 250 µm)</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>0.89 phi (Platykurtic)</td>
<td>22.16</td>
</tr>
<tr>
<td>Medium sand (250-500 µm)</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>0.89 phi (Platykurtic)</td>
<td>22.16</td>
</tr>
<tr>
<td>Coarse sand (500-1000 µm)</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>0.89 phi (Platykurtic)</td>
<td>22.16</td>
</tr>
<tr>
<td>Very coarse sand (1000 - 2000 µm)</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>0.89 phi (Platykurtic)</td>
<td>22.16</td>
</tr>
</tbody>
</table>

**Inclusive SD (Sorting Coeff.)** = 2.17 phi (Very Poorly Sorted)  
**Inclusive Skewness** = .03 (Near Symmetrical)  
**Inclusive Mean** = 6.78 phi (Silt)

**USGS**  
- % Clay (0-2 µm) = 16.71  
- % Fine Silt (2-3.9 µm) = 13.7  
- % Silt (3.91-31 µm) = 47.27  
- % Clay (0-3.9 um) = 30.41  
- % Silt (3.91-31 um) = 47.27

**Wentworth**  
- % Clay (0-2 µm) = 16.71  
- % Fine Silt (2-3.9 µm) = 13.7  
- % Silt (3.91-31 µm) = 47.27  
- % Medium sand (250-500 µm) = .84  
- % Coarse sand (500-1000 µm) = 1.14  
- % Very Fine sand (62.5 - 125 um) = 6.55  
- % Fine sand (125-250 um) = 1.69

**Notes:**
- Inclusive Mean = 6.78 phi (Silt)
- Inclusive Kurtosis = .89 phi (Platykurtic)
- Inclusive SD (Sorting Coeff.) = 2.17 phi (Very Poorly Sorted)

**Figures:**
- Particle Size Distribution
- Size Hi phi: um, Size Lo phi: um, % In, % Below
- Size Hi phi: um, Size Lo phi: um, % In, % Below

**Malvern Instruments Ltd.**
- Mastersizer 2000 Ver. 5.22
- Serial Number: MAL101534
- File name: DAMOS.mea
- Record Number: 936
## Grain-Size Analysis Report

**Sample:** 17-1-DM2 - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**Measured by:** Katy  
**Measured:** Friday, August 14, 2009 10:37:51 AM

### Particle Name: Fraunhofer  
### Dispersant Name: Water  

<table>
<thead>
<tr>
<th>Particle Size (µm)</th>
<th>Volume (%)</th>
<th>Obscuration</th>
<th>Kurtosis</th>
<th>Skewness</th>
<th>Inclusive Mean</th>
<th>Inclusive SD</th>
<th>Inclusive Skewness</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01</td>
<td>0.5</td>
<td>(1414.21)</td>
<td>100</td>
<td>0</td>
<td>5.97 phi (Silt)</td>
<td>2.27 phi</td>
<td>-0.1 (Near Symmetrical)</td>
</tr>
<tr>
<td>0.1</td>
<td>0</td>
<td>(1000.00)</td>
<td>99.86</td>
<td>0.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.2</td>
<td>0.5</td>
<td>(707.10)</td>
<td>99.52</td>
<td>0.47</td>
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</tr>
<tr>
<td>0.3</td>
<td>1.0</td>
<td>(500.00)</td>
<td>98.92</td>
<td>0.95</td>
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<tr>
<td>0.4</td>
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<td>97.93</td>
<td>1.41</td>
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<tr>
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</tr>
<tr>
<td>0.6</td>
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<td>(176.78)</td>
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<td>2.42</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>0.7</td>
<td>3.0</td>
<td>(125.00)</td>
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<td>2.96</td>
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</tr>
<tr>
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<td>(88.39)</td>
<td>91.96</td>
<td>3.51</td>
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</tr>
<tr>
<td>0.9</td>
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<td>(62.50)</td>
<td>87.85</td>
<td>4.06</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1.0</td>
<td>4.5</td>
<td>(44.19)</td>
<td>81.47</td>
<td>4.62</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>5.0</td>
<td>(31.25)</td>
<td>73.27</td>
<td>5.23</td>
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</tr>
<tr>
<td>1.2</td>
<td>5.5</td>
<td>(22.10)</td>
<td>64.05</td>
<td>5.84</td>
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<td></td>
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</tr>
<tr>
<td>1.3</td>
<td>6.0</td>
<td>(15.63)</td>
<td>54.7</td>
<td>6.45</td>
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<tr>
<td>1.4</td>
<td>6.5</td>
<td>(11.05)</td>
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<td>7.10</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1.5</td>
<td>7.0</td>
<td>(7.81)</td>
<td>37.84</td>
<td>7.66</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.6</td>
<td>7.5</td>
<td>(5.52)</td>
<td>30.74</td>
<td>8.21</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1.7</td>
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<td>(3.90)</td>
<td>24.55</td>
<td>8.88</td>
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</tr>
</tbody>
</table>

**Notes:**

- **Dispersant RI:** Fraunhofer  
- **Dispersant Name:** Water  
- **Source:** USGS  
- **Cruise:** Katy  
- **Obscuration:** 11.90

**Inclusive SD (Sorting Coeff.)** = 2.27 phi (Very Poorly Sorted)  
**Inclusive Skewness** = -0.1 (Near Symmetrical)  
**Inclusive Kurtosis** = 1.01 phi (Mesokurtic)  
**Inclusive Mean** = 5.97 phi (Silt)

---

**Malvern Instruments Ltd.**  
**Mastersizer 2000 Ver. 5.22**  
**Serial Number:** MAL101534  
**Record Number:** 940  
**File name:** DAMOS.mea
Grain-Size Analysis Report

Sample: 17-1-E - Average
Source: DAMOS
Cruise: DAMOS

Inclusive SD (Sorting Coeff.) = 2.03 phi (Very Poorly Sorted)
Inclusive Skewness = -0.18 (Coarse Skewed)
Inclusive Kurtosis = .94 phi (Mesokurtic)

USGS
% Clay (0-2 um) = 12.08
% Fine Silt (2-3.9 um) = 9.84

Wentworth
% Clay (0-3.9 um) = 21.91
% Silt (3.91-31 um) = 50.47
% Coarse Silt (31 - 62.5 um) = 17.31
% Very Fine sand (62.5 - 125 um) = 1.89
% Fine sand (125-250 um) = 1.14
% Medium sand (250-500 um) = 1.89
% Coarse sand (500-1000 um) = .45
% Very Coarse sand (1000 - 2000 um) = 0

Notes:

Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
Record Number: 912

File name: DAMOS.mea
**Grain-Size Analysis Report**

**Sample:** 17-1-F - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Katy  
**Measured:** Friday, August 14, 2009 10:10:22 AM

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Disperrant RI:</th>
<th>Absorption:</th>
<th>Inclusive Kurtosis</th>
<th>Inclusive SD</th>
<th>Kurtosis</th>
<th>Skewness</th>
<th>Inclusive Mean</th>
</tr>
</thead>
</table>
| Coarse Silt (31 - 62.5 um) | 19.04  
| Coarse Sand (500-1000 um) | 10.54  
| Very Fine Sand (62.5 - 125 um) | 5.52  
| Very Coarse Sand (1000 - 2000 um) | 0  
| Fine Silt (2-3.9 um) | 9.75  
| Fine Sand (125-250 um) | .28  
| Medium Sand (250-500 um) | .14  
| Clay (0-2 um) | 12.21  
| Clay (0-3.9 um) | 21.97  
| Silt (3.91-31 um) | 51.41  
| Very Fine Sand (62.5 - 125 um) | 7.06  
| Absorption: | 0  
| Inclusive Kurtosis: | .89 phi (Platykurtic)  
| Inclusive SD: | 1.94 phi (Poorly Sorted)  
| Inclusive Mean: | 6.39 phi (Silt)  

**Notes:**

- 17-1-F - Average, Friday, August 14, 2009 10:10:22 AM

---

**Malvern Instruments Ltd.**
**Malvern, UK**
**Serial Number: MAL101534**
**File name: DAMOS.mea**
**Recording Number: 916**
Grain-Size Analysis Report

Sample: 17-1-G - Average  
Source: DAMOS  
Cruise: DAMOS  
SOP Name: DAMOS  
Measured by: Katy  
Measured: Friday, August 14, 2009 10:14:53 AM

<table>
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<th>Particle Name:</th>
<th>Fraunhofer</th>
<th>Particle RI: 0.000</th>
<th>Absorption: 0</th>
<th>Obscuration: 16.53</th>
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<table>
<thead>
<tr>
<th>Dispersant Name:</th>
<th>Water</th>
<th>Dispersant RI: 1.330</th>
</tr>
</thead>
</table>

D[4,3] = 24.33um = 5.36phi  
D[v,0.5] = 14.51um = 6.11phi  
Kurtosis = 111.08

D[v,0.05] = 1.05um = 8.69phi  
D[v,0.16] = 2.62um = 8.56phi  
Skewness = 8.67

D[v,0.95] = 72.49um = 3.79phi  
Standard Deviation = 39.74 um = 4.65phi

Inclusive SD (Sorting Coeff.) = 1.94 phi (Poorly Sorted)  
Inclusive Kurtosis = .9 phi (Platykurtic)  
Inclusive Mean = 6.4 phi (Silt)

USGS
- % Clay (0-2 um) = 12.26  
- % Fine Silt (2-3.9 um) = 9.82

Wentworth
- % Clay (0-3.9 um) = 22.08  
- % Silt (3.91-31 um) = 51.75
- % Coarse Silt (31 - 62.5 um) = 18.76  
- % Very Fine sand (62.5 - 125 um) = 6.61

<table>
<thead>
<tr>
<th>Size Hi</th>
</tr>
</thead>
<tbody>
<tr>
<td>phi um</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>-1 (2000.00)</td>
</tr>
<tr>
<td>-0.5 (1414.21)</td>
</tr>
<tr>
<td>0.0 (1000.00)</td>
</tr>
<tr>
<td>0.5 (707.10)</td>
</tr>
<tr>
<td>1.0 (500.00)</td>
</tr>
<tr>
<td>1.5 (353.55)</td>
</tr>
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<td>2.0 (250.00)</td>
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<tr>
<td>2.5 (176.78)</td>
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<td>3.0 (125.00)</td>
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<td>3.5 (88.39)</td>
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<tr>
<td>4.0 (62.50)</td>
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<td>4.5 (44.19)</td>
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<td>5.0 (31.25)</td>
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<td>6.0 (15.63)</td>
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<td>6.5 (11.05)</td>
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<tr>
<td>7.0 (7.81)</td>
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<tr>
<td>7.5 (5.52)</td>
</tr>
<tr>
<td>8.0 (3.90)</td>
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</tbody>
</table>

Notes:

- Malvern Instruments Ltd.
- Mastersizer 2000 Ver. 5.22
- Serial Number: MAL101534
- File name: DAMOS.mea
- Record Number: 920
Grain-Size Analysis Report

Sample: 17-1-H - Average
Source: USGS
Cruise: DAMOS

SOP Name: DAMOS
Measured by: Katy
Measured: Friday, August 14, 2009 10:19:16 AM

Particle Name: Fraunhofer
Dispersant Name: Water
Particle RI: 0.000
Dispersant RI: 1.330
Absorption: 0
Obscuration: 19.09

D[4,3] = 26.64 µm = 5.23 phi
D[ν,0.5] = 15.06 µm = 6.05 phi
Kurtosis = 91.82
Skewness = 7.95

D[ν,0.16] = 2.55 µm = 8.61 phi
Standard Deviation = 44.43 µm = 4.49 phi

Inclusive SD (Sorting Coeff.) = 2.01 phi (Very Poorly Sorted)
Inclusive Skewness = -0.22 (Coarse Skewed)
Inclusive Kurtosis = .88 phi (Platykurtic)

USGS
% Clay (0-2 µm) = 12.6
% Fine Silt (2-3.9 µm) = 9.85

Wentworth
% Clay (0-3.9 µm) = 22.45
% Silt (3.91-31 µm) = 48.71
% Coarse Silt (31 - 62.5 µm) = 19.31
% Very Fine sand (62.5 - 125 µm) = 8.29
% Fine sand (125-250 µm) = .68
% Medium sand (250-500 µm) = .31
% Coarse sand (500-1000 µm) = .25
% Very Coarse sand (1000 - 2000 µm) = 0

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File Name: DAMOS.mea
Record Number: 924
Grain-Size Analysis Report

Sample: 17-1-I - Average
Source: DAMOS
Cruise: DAMOS

<table>
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<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Dispersant RI:</th>
<th>Absorption:</th>
<th>Obscuration:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraunhofer</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>20.35</td>
</tr>
</tbody>
</table>

D[4,3] = 27.49um = 5.19phi  
D[v,0.5] = 14.88um = 6.07phi  
Kurtosis = 92.42  
Skewness = 8.36  
Standard Deviation = 52.25 um = 4.26phi

Inclusive SD (Sorting Coeff.) = 2.02 phi (Very Poorly Sorted)  
Inclusive Skewness = -0.22 (Coarse Skewed)  
Inclusive Mean = 6.38 phi (Silt)

USGS
% Clay (0-2 um) = 13  
% Fine Silt (2-3.9 um) = 10.01  
% Coarse Silt (31 - 62.5 um) = 19.3  
% Very Fine sand (62.5 - 125 um) = 7.91

Wentworth
% Clay (0-3.9 um) = 23.01  
% Silt (3.91-31 um) = 48.41  
% Medium sand (250-500 um) = .45  
% Coarse sand (500-1000 um) = .38  
% Very Coarse sand (1000 - 2000 um) = 0

<table>
<thead>
<tr>
<th>Particle Size Distribution</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Size Hi</th>
<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
<th>Size Hi</th>
<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
<tr>
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Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 928

-Malvern, UK-

-Water Absorption:
Obscuration : 20.35

-17-1-I - Average, Friday, August 14, 2009 10:23:48 AM
### Grain-Size Analysis Report

**Sample:** 17-1-J - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**Measured by:** Katy  
**Measured:** Friday, August 14, 2009 10:28:14 AM

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<th>Dispersant Ri: 1.330</th>
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<td>D[v,0.16] = 2.56µm = 8.61phi</td>
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<td>Standard Deviation = 32.18 µm = 4.96phi</td>
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**Inclusive SD (Sorting Coeff.) = 2 phi (Very Poorly Sorted)**  
**Inclusive Skewness = -0.22 (Coarse Skewed)**  
**Inclusive Kurtosis = .87 phi (Platykurtic)**

### Inclusive Mean = 6.36 phi (Silt)

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### Notes:

- Inclusive Mean = 6.36 phi (Silt)
- Inclusive SD (Sorting Coeff.) = 2 phi (Very Poorly Sorted)
- Inclusive Skewness = -0.22 (Coarse Skewed)
- Inclusive Kurtosis = .87 phi (Platykurtic)

---

**Malvern Instruments Ltd.**  
**Malvern, UK**  
**Mastersizer 2000 Ver. 5.22**  
**Serial Number: MAL101534**  
**Record Number: 932**  
**File name: DAMOS.meas**
Grain-Size Analysis Report

Sample: 18-1-A - Average

Source: DAMOS

Cruise: DAMOS

SOP Name: DAMOS

Measured by: Administrator

Measured:
Wednesday, August 12, 2009
4:06:40 PM

Inclusive SD (Sorting Coeff.) = 2.7 phi (Very Poorly Sorted)
Inclusive Kurtosis = 1.12 phi (Leptokurtic)
Inclusive Mean = 6.07 phi (Silt)

USGS
% Clay (0-2 um) = 12.52
% Fine Silt (2-3.9 um) = 10.46

Wentworth
% Clay (0-3.9 um) = 22.98
% Silt (3.91-31 um) = 44.41
% Coarse Silt (31 - 62.5 um) = 12.28
% Very Fine sand (62.5 - 125 um) = 6.89
% Fine sand (125-250 um) = 2.94
% Medium sand (250-500 um) = 3.27
% Coarse sand (500-1000 um) = 2.09
% Very Coarse sand (1000 - 2000 um) = 2.09

Notes:

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18-1-A - Average, Wednesday, August 12, 2009 4:06:40 PM

---
Grain-Size Analysis Report

Sample: 18-1-B - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Administrator
Measured: Wednesday, August 12, 2009 4:11:45 PM

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Notes:

- Obscuration: 15.91
- Kurtosis: 33.87
- Skewness: 5.5
- Standard Deviation = 187.46 um = 2.42phi

Inclusive SD (Sorting Coeff.) = 2.31 phi (Very Poorly Sorted)
Inclusive Skewness = -0.04 (Near Symmetrical)
Inclusive Kurtosis = 1.07 phi (Mesokurtic)
Inclusive Mean = 6.27 phi (Silt)
**Grain-Size Analysis Report**

**Sample:** 18-1-C - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Administrator  
**Measured:** Wednesday, August 12, 2009 4:16:44 PM

**Particle Name:** Fraunhofer  
**Dispersant Name:** Water  
**Particle RI:** 0.000  
**Dispersant RI:** 1.330  
**Absorption:** 0  
**Oscillation:** 13.53

- **D[4,3] = 74.67 um = 3.74 phi**
- **D[v,0.5] = 14.9 um = 6.07 phi**
- **D[v,0.16] = 2.72 um = 8.52 phi**

**Inclusive SD (Sorting Coeff.) = 2.36 phi (Very Poorly Sorted)**  
**Inclusive Skewness = -0.03 (Near Symmetrical)**  
**Inclusive Kurtosis = 1.29 phi (Leptokurtic)**  
**Inclusive Mean = 6.34 phi (Silt)**

**USGS**  
- % Clay (0-2 um) = 11.79  
- % Fine Silt (2-3.9 um) = 9.8  

**Wentworth**  
- % Clay (0-3.9 um) = 21.59  
- % Silt (3.91-31 um) = 51.3  
- % Coarse Silt (31 - 62.5 um) = 16.62  
- % Very Fine sand (62.5 - 125 um) = 4.39

**Notes:**
- % Clay (0-2 um) = 11.79
- % Fine Silt (2-3.9 um) = 9.8
- % Clay (0-3.9 um) = 21.59
- % Silt (3.91-31 um) = 51.3
- % Coarse Silt (31 - 62.5 um) = 16.62
- % Very Fine sand (62.5 - 125 um) = 4.39

**Inclusive Mean = 6.34 phi (Silt)**

---

18-1-C - Average, Wednesday, August 12, 2009 4:16:44 PM
Grain-Size Analysis Report

Sample: 18-1-D - Average  
Source: DAMOS  
Cruise: DAMOS  
Measurements:
- Measured by: Administrator
- Measured: Wednesday, August 12, 2009 4:21:10 PM

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<td>44.17</td>
<td>phi</td>
<td>phi</td>
</tr>
<tr>
<td>7.0 (7.81)</td>
<td>7.5 (5.52)</td>
<td>7.1</td>
<td>35.89</td>
<td>phi</td>
<td>phi</td>
</tr>
<tr>
<td>7.5 (5.52)</td>
<td>8.0 (3.90)</td>
<td>6.27</td>
<td>28.79</td>
<td>phi</td>
<td>phi</td>
</tr>
</tbody>
</table>

Notes:

- Coarse Silt (31 - 62.5 um) = 17.63
- Very Fine sand (62.5 - 125 um) = 4.26
- Fine sand (125-250 um) = .02
- Medium sand (250-500 um) = .12
- Coarse sand (500-1000 um) = .64
- Very Coarse sand (1000 - 2000 um) = .32
- Clay (0-3.9 um) = 12.27
- Fine Silt (2-3.9 um) = 10.22
- Coarse Silt (31 - 62.5 um) = 17.63
- Very Fine sand (62.5 - 125 um) = 4.26
- D[4,3] = 28.76um = 5.12phi
- D[v,0.5] = 13.66um = 6.19phi
- Kurtosis = 129.63
- Inclusive Kurtosis = .9 phi (Mesokurtic)
- Inclusive Mean = 6.49 phi (Silt)
- Inclusive SD (Sorting Coeff.) = 1.87 phi (Poorly Sorted)

DAMOS

Inclusive SD (Sorting Coeff.) = 1.87 phi (Poorly Sorted)
Inclusive Kurtosis = .9 phi (Mesokurtic)
Inclusive Mean = 6.49 phi (Silt)
Grain-Size Analysis Report

Sample: 18-1-E - Average  
Source: USGS  
Cruise: Administrator  

Particle Name: Fraunhofer  
Dispersant Name: Water  
Dispersant RI: 0.000  
Absorption: 0  
Obscuration: 16.54

D[4,3] = 34.59um = 4.85phi  
D[v,0.5] = 14.77um = 6.08phi  
Kurtosis = 103.63

Inclusive SD (Sorting Coeff.) = 1.96 phi (Poorly Sorted)  
Inclusive Kurtosis = .9 phi (Mesokurtic)  
Inclusive Skewness = -.22 (Coarse Skewed)  
Inclusive Mean = 6.37 phi (Silt)

USGS
% Clay (0-2 um) = 12.08  
% Fine Silt (2-3.9 um) = 9.84

Wentworth
% Clay (0-3.9 um) = 21.92  
% Silt (3.91-31 um) = 50.94

% Coarse Silt (31 - 62.5 um) = 18.63  
% Very Fine sand (62.5 - 125 um) = 6.54

% Very Coarse sand (1000 - 2000 um) = .41

Notes:

---

18-1-E - Average, Wednesday, August 12, 2009 4:26:43 PM

---

Malvern Instruments Ltd.  
Malvern, UK  
Mastersizer 2000 Ver. 5.22  
Serial Number: MAL101534  
File name: DAMOS.mea  
Record Number: 784

---
Grain-Size Analysis Report

Sample: 18-1-F - Average
Source: DAMOS
Cruise: DAMOS

SOP Name: DAMOS
Measured by: Administrator
Measured: Wednesday, August 12, 2009 4:31:45 PM

% Clay (0-2 um) = 12.34
% Silt (3.91-31 um) = 52.28
% Clay (0-3.9 um) = 22.19
% Coarse Silt (31 - 62.5 um) = 18.98
% Clay (0-3.9 um) = 22.19
% Very Fine Sand (62.5 - 125 um) = 5.34
% Clay (0-3.9 um) = 22.19
% Very Coarse Sand (1000 - 2000 um) = .25
% Fine Sand (125-250 um) = .04
% Medium Sand (250-500 um) = .26
% Coarse Sand (500-1000 um) = .68
% Very Coarse Sand (1000 - 2000 um) = .25

D[4,3] = 29.63um = 5.08phi
D[4,0.5] = 14.66um = 6.09phi
Kurtosis = 115.27
Skewness = 10.06

D[0.16] = 2.61um = 8.56phi
D[0.05] = 0.14um = 9.91phi
Standard Deviation = 87.78 um = 3.51phi

Inclusive SD (Sorting Coeff.) = 1.92 phi (Poorly Sorted)
Inclusive Skewness = -.25 (Coarse Skewed)
Inclusive Kurtosis = .9 phi (Platykurtic)
Inclusive Mean = 6.42 phi (Silt)

Dispersant Name: Water
Dispersant RI: 1.330

Notes:

Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.meas
Record Number: 788
Grain-Size Analysis Report

Sample: 18-1-G - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Administrator
Measured: Wednesday, August 12, 2009 4:36:27 PM

Particle Name: Fraunhofer
Dispersant Name: Water
Particle RI: 0.000
Dispersant RI: 1.330
Absorption: 0

D_{[4,3]} = 28.67\mu m = 5.12\phi
D_{[v,0.5]} = 15.92\mu m = 5.97\phi
Kurtosis = 124.58

D_{[v,0.05]} = 1.08\mu m = 8.65\phi
Skewness = 9.96
D_{[v,0.16]} = 2.74\mu m = 8.51\phi
Inclusive SD (Sorting Coeff.) = 1.95\phi (Poorly Sorted)

Inclusive Kurtosis = .89\phi (Platykurtic)
Inclusive Skewness = -0.25 (Coarse Skewed)
Inclusive Mean = 6.31\phi (Silt)

% Clay (0-2 \mu m) = 11.7
% Silt (3.91-31 \mu m) = 49.82
% Coarse Silt (31 - 62.5 \mu m) = 20.21
% Very Fine sand (62.5 - 125 \mu m) = 7.24
% Fine sand (125-250 \mu m) = .51
% Medium sand (250-500 \mu m) = .35
% Coarse sand (500-1000 \mu m) = .49
% Very Coarse sand (1000 - 2000 \mu m) = .05

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 792
Grain-Size Analysis Report

Sample: 19-1-A - Average  
Source: USGS  
Cruse: DAMOS  
SOP Name: DAMOS  
Measured by: Julie  
Measured: Tuesday, August 04, 2009 2:32:40 PM

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Dispersant RI:</th>
<th>Absorption:</th>
<th>Inclusive SD (Sorting Coeff.)</th>
<th>Kurtosis</th>
<th>Skewness</th>
<th>Inclusive Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse Silt (31 - 62.5 um) = 17.66%</td>
<td>Fraunhofer</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>Very Poorly Sorted</td>
<td>6.44 phi (Silt)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Fine sand (62.5 - 125 um) = 6.2%</td>
<td>Water</td>
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</tr>
<tr>
<td>Fine Silt (2-3.9 um) = 10.53%</td>
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</tr>
<tr>
<td>Medium sand (250-500 um) = .46%</td>
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</tr>
<tr>
<td>Coarse sand (500-1000 um) = 1.66%</td>
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<td></td>
</tr>
<tr>
<td>Very Coarse sand (1000 - 2000 um) = 1.4%</td>
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<td></td>
</tr>
<tr>
<td>Clay (0-2 um) = 13.82%</td>
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<td></td>
</tr>
<tr>
<td>Silt (3.91-31 um) = 47.91%</td>
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</tr>
<tr>
<td>Clay (0-3.9 um) = 24.34%</td>
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<td></td>
</tr>
<tr>
<td>Silt (3.91-31 um) = 47.91%</td>
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<td></td>
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</tr>
<tr>
<td>Coarse Silt (31 - 62.5 um) = 17.66%</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Fine sand (62.5 - 125 um) = 6.2%</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Inclusive SD (Sorting Coeff.) = 2.09 phi (Very Poorly Sorted)</td>
<td></td>
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</tr>
<tr>
<td>% Inclusive Kurtosis = .89 phi (Platykurtic)</td>
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<td></td>
</tr>
<tr>
<td>% Inclusive Mean = 6.44 phi (Silt)</td>
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<td></td>
</tr>
</tbody>
</table>

USGS

% Clay (0-2 um) = 13.82%
% Fine Silt (2-3.9 um) = 10.53%
% Medium sand (250-500 um) = .46%
% Coarse sand (500-1000 um) = 1.66%
% Very Coarse sand (1000 - 2000 um) = 1.4%
% Clay (0-3.9 um) = 24.34%
% Silt (3.91-31 um) = 47.91%
% Coarse Silt (31 - 62.5 um) = 17.66%
% Very Fine sand (62.5 - 125 um) = 6.2%

Notes:

Malvern Instruments Ltd.  
Malvern, UK  
Mastersizer 2000 Ver. 5.22  
Serial Number: MAL101534  
File name: DAMOS.mea  
Record Number: 56
Grain-Size Analysis Report

Sample: 19-1-B - Average
Source: Dolores
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water

Particle RI: 0.000
Dispersant RI: 1.330
Absorption: 0

D[4,3] = 47.9um = 4.38phi
D[v,0.5] = 14.8um = 6.08phi
D[0.16] = 2.44um = 8.68phi
D[v,0.95] = 86.26um = 3.54phi

% Coarse Silt (31 - 62.5 um) = 18.79
% Very Fine sand (62.5 - 125 um) = 0.28
% Fine sand (125-250 um) = 0.27
% Medium sand (250-500 um) = .28
% Coarse sand (500-1000 um) = 1.31
% Very Coarse sand (1000 - 2000 um) = 1.16

% Clay (0-2 um) = 13.2
% Fine Silt (2-3.9 um) = 10.09
% Silt (3.91-31 um) = 48.49
% Clay (0-3.9 um) = 23.29
% Silt (3.91-31 um) = 48.49
% Very Fine sand (62.5 - 125 um) = 6.42
% Medium sand (250-500 um) = .28
% Very Coarse sand (1000 - 2000 um) = 1.16

Kurtosis = 51.95
Skewness = 6.93

Inclusive SD (Sorting Coeff.) = 2.04 phi (Very Poorly Sorted)
Inclusive Skewness = -0.22 (Coarse Skewed)
Inclusive Mean = 6.39 phi (Silt)

Inclusive Kurtosis = .88 phi (Platykurtic)

USGS Wentworth

% Clay (0-2 um) = 13.2
% Fine Silt (2-3.9 um) = 10.09
% Silt (3.91-31 um) = 48.49
% Clay (0-3.9 um) = 23.29
% Silt (3.91-31 um) = 48.49
% Very Fine sand (62.5 - 125 um) = 6.42
% Medium sand (250-500 um) = .28
% Very Coarse sand (1000 - 2000 um) = 1.16

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 60
**Grain-Size Analysis Report**

**Sample:** 19-1-C - Average  
**Source:** Damos  
**Cruise:** Damos  
**SOP Name:** DAMOS  
**Measured by:** Julie  
**Measured:** Tuesday, August 04, 2009 2:42:24 PM

**Particle Name:** Fraunhofer  
**Dispersant Name:** Water  
**Particle RI:** 0.000  
**Dispersant RI:** 1.330  
**Absorption:** 0  
**Obscuration:** 20.05

- **D[4,3] = 47.88um = 4.38phi**  
- **D[4,0.5] = 15.98um = 5.97phi**  
- **D[0.5,0.16] = 2.57um = 8.6phi**  
- **Kurtosis = 55.64**  
- **Skewness = 7.18**  
- **Standard Deviation = 166.06um = 2.59phi**

**Inclusive SD (Sorting Coeff.) = 2.05 phi (Very Poorly Sorted)**  
**Inclusive Skewness = -0.23 (Coarse Skewed)**  
**Inclusive Kurtosis = .88 phi (Platykurtic)**  
**Inclusive Mean = 6.3 phi (Silt)**

**USGS**  
- % Clay (0-2 um) = 12.56  
- % Fine Silt (2-3.9 um) = 9.65  
  
**Wentworth**  
- % Clay (0-3.9 um) = 22.22  
- % Silt (3.91-31 um) = 47.38  
- % Coarse Silt (31-62.5 um) = 19.83  
- % Very Fine Sand (62.5-125 um) = 7.76

**Notes:**

---

**Particle Size Distribution**

**Size HI (um)**

- **0.01**
- **0.1**
- **1**
- **10**
- **100**
- **1000**
- **3000**

**Size Lo (um)**

- **0.000**
- **0.1**
- **1**
- **10**
- **100**
- **1000**
- **3000**

**Inclusive Mean = 6.3 phi (Silt)**
Grain-Size Analysis Report

Sample: 19-1-D - Average
Source: USGS
Cruise: DAMOS

Notes:

<table>
<thead>
<tr>
<th>D[4,3]</th>
<th>d (0.1) : 1.584</th>
<th>Inclusive SD (Sorting Coeff.) = 2.03 phi (Very Poorly Sorted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>49.68um = 4.33phi</td>
<td>D[0.5] : 1.438um = 4.33phi</td>
<td>Inclusive Skewness = -.02 (Coarse Skewed)</td>
</tr>
<tr>
<td>1.0um = 0.043phi</td>
<td>D[v,0.5] : 46.06um = 4.44phi</td>
<td>Inclusive Kurtosis = .89 phi (Platykurtic)</td>
</tr>
<tr>
<td>2.45um = 0.87phi</td>
<td>D[v,0.16] : 86.67um = 3.53phi</td>
<td>Inclusive Mean = 6.41 phi (Silt)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D[0.9]</th>
<th>d (0.5) : 14.383</th>
<th>Standard Deviation = 177.34 um = 2.5phi</th>
</tr>
</thead>
<tbody>
<tr>
<td>60.17um = 6.12phi</td>
<td>D[v,0.9] : 86.67um = 3.53phi</td>
<td>Inclusive Mean = 6.41 phi (Silt)</td>
</tr>
<tr>
<td>12.0um = 0.49phi</td>
<td>D[v,0.16] : 86.67um = 3.53phi</td>
<td>Inclusive Kurtosis = .89 phi (Platykurtic)</td>
</tr>
</tbody>
</table>

| Inclusive SD (Sorting Coeff.) = 2.03 phi (Very Poorly Sorted) |
| Inclusive Skewness = -.02 (Coarse Skewed) |
| Inclusive Kurtosis = .89 phi (Platykurtic) |
| Inclusive Mean = 6.41 phi (Silt) |

USGS
% Clay (0-2 um) = 13.09
% Fine Silt (2-3.9 um) = 10.22
% Coarse Silt (31 - 62.5 um) = 18.17
% Very Fine sand (62.5 - 125 um) = 6.16

Wentworth
% Clay (0-3.9 um) = 23.31
% Silt (3.91-31 um) = 49.22
% Very Coarse sand (1000 - 2000 um) = 1.31
% Medium sand (250-500 um) = .28
% Very Coarse sand (1000 - 2000 um) = 1.31

Average
% Clay = 23.31
% Silt = 49.22
% Coarse Silt = 18.17
% Very Fine sand = 6.16

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
Record Number: 68
File name: DAMOS.meas
Grain-Size Analysis Report

Sample: 19-1-E - Average
Source: USGS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water

<table>
<thead>
<tr>
<th>Dispersant RI: 1.330</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absorption: 0</td>
</tr>
<tr>
<td>Obscuration: 24.59</td>
</tr>
</tbody>
</table>

\[
\text{D}_{4,3} = 52.22 \mu\text{m} = 4.26 \text{phi} \\
\text{D}_{v,0.5} = 14.08 \mu\text{m} = 6.15 \text{phi} \\
\text{D}_{v,0.16} = 2.39 \mu\text{m} = 8.71 \text{phi}
\]

Inclusive SD (Sorting Coeff.) = 2.02 phi (Very Poorly Sorted)
Inclusive Kurtosis = .89 phi (Platykurtic)
Inclusive Mean = 6.45 phi (Silt)

USGS
\[
\begin{align*}
\% \text{ Clay (0-2 um)} &= 13.44 \\
\% \text{ Fine Silt (2-3.9 um)} &= 10.29
\end{align*}
\]

Wentworth
\[
\begin{align*}
\% \text{ Clay (0-3.9 um)} &= 23.72 \\
\% \text{ Silt (3.91-31 um)} &= 49.91 \\
\% \text{ Coarse Silt (31 - 62.5 um)} &= 17.87 \\
\% \text{ Very Fine sand (62.5 - 125 um)} &= 5.22
\end{align*}
\]

\[
\begin{align*}
\text{d (0.1)} &= 1.546 \mu\text{m} \\
\text{d (0.5)} &= 14.083 \\
\text{d (0.9)} &= 57.416
\end{align*}
\]

Notes:
- Malvern Instruments Ltd.
- Mastersizer 2000 Ver. 5.22
- Serial Number: MAL101534
- Record Number: 72
- File name: DAMOS.mea

---

19-1-E - Average, Tuesday, August 04, 2009 2:51:45 PM
Grain-Size Analysis Report

Sample: 19-1-F - Average  
Source: USGS  
Cruise: DAMOS

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Fraunhofer</th>
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</thead>
<tbody>
<tr>
<td>Dispersant Name:</td>
<td>Water</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Particle Size Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01</td>
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</table>

<table>
<thead>
<tr>
<th>Size Hi phi</th>
<th>Size Lo phi</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000</td>
<td>0.000</td>
<td>0.39</td>
<td>100</td>
</tr>
<tr>
<td>1.330</td>
<td>0.000</td>
<td>0.000</td>
<td>0</td>
</tr>
</tbody>
</table>

Notes:

- Notes:
- Malvern Instruments Ltd.
- Mastersizer 2000 Ver. 5.22
- Serial Number: MAL101534
- Record Number: 76
- File name: DAMOS.mea
Grain-Size Analysis Report

Sample: 20-1-A - Average
Source: DAMOS
Cruise: DAMOS

Inclusive SD (Sorting Coeff.) = 2.01 phi (Very Poorly Sorted)
Inclusive Skewness = -0.21 (Coarse Skewed)
Inclusive Kurtosis = .92 phi (Mesokurtic)

USGS
% Clay (0-2 um) = 12.46
% Fine Silt (2-3.9 um) = 9.82
  d (0.1) : 1.650 um
  d (0.5) : 14.793 um

Wentworth
% Clay (0-3.9 um) = 22.28
% Silt (3.91-31 um) = 50.51
% Coarse Silt (31 - 62.5 um) = 18.17
% Very Fine sand (62.5 - 125 um) = 5.32
% Fine sand (125-250 um) = .34
% Medium sand (250-500 um) = .81
% Coarse sand (500-1000 um) = 1.54
% Very Coarse sand (1000 - 2000 um) = 1.02

Notes:

- Inclusive Mean = 6.38 phi (Silt)
- Inclusive SD (Sorting Coeff.) = 2.01 phi (Very Poorly Sorted)
- Inclusive Skewness = -0.21 (Coarse Skewed)
- Inclusive Kurtosis = .92 phi (Mesokurtic)

**Notes:**
- Malvern Instruments Ltd.
- Mastersizer 2000 Ver. 5.22
- Serial Number: MAL101534
- File name: DAMOS.mea
- Record Number: 1040
Grain-Size Analysis Report

Sample: 20-1-B - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Katy
Measured: Friday, August 14, 2009 4:23:12 PM

Inclusive SD (Sorting Coeff.) = 1.99 phi (Poorly Sorted)
Inclusive Kurtosis = .88 phi (Pakurytik)
Inclusive Mean = 6.36 phi (Silt)

USGS
% Clay (0-2 um) = 12.5
% Fine Silt (2-3.9 um) = 9.82
% Medium sand (250-500 um) = .48
% Coarse sand (500-1000 um) = .9
% Very Coarse sand (1000-2000 um) = .56

Wentworth
% Clay (0-3.9 um) = 22.32
% Silt (3.91-31 um) = 49.47
% Fine sand (125-250 um) = .2
% Medium sand (250-500 um) = .48
% Coarse sand (500-1000 um) = .9
% Very Coarse sand (1000-2000 um) = .56

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 1044
Grain-Size Analysis Report

Sample: 20-1-C - Average
Source: DAMOS
CruiSe: DAMOS
SOP Name: DAMOS
Measured by: Katy
Measured: Friday, August 14, 2009 4:28:02 PM

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Dispersant RI:</th>
<th>Absorption:</th>
<th>Obscuration:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse Silt (31 - 62.5 um) = 19.22</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Size Hi</td>
<td>15.0</td>
<td>0.36</td>
<td></td>
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<td></td>
</tr>
<tr>
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<tr>
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</table>

| Inclusive SD (Sorting Coeff.) = 1.92 phi (Poorly Sorted) |
| Inclusive Kurtosis = .9 phi (Mesokurtic) |
| Inclusive Mean = 6.39 phi (Silt) |

USGS
% Clay (0-2 um) = 12.1
% Fine Silt (2-3.9 um) = 9.68
% Coarse Silt (31 - 62.5 um) = 19.22
% Very Fine sand (62.5 - 125 um) = 5

Wentworth
% Clay (0-3.9 um) = 21.78
% Silt (3.91-31 um) = 52.13
% Coarse Silt (31-62.5 um) = 19.22
% Very Fine sand (62.5-125 um) = 5

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Volume (%):</th>
</tr>
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<tbody>
<tr>
<td>Inclusive Mean = 6.39 phi (Silt)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:

- d (0.1) : 1.693 um
- d (0.5) : 14.941 um
- d (0.9) : 53.280

---

20-1-C - Average, Friday, August 14, 2009 4:28:02 PM
### Grain-Size Analysis Report

#### Sample: 20-1-D - Average  
#### Source: DAMOS  
#### Cruise: DAMOS  
#### Measured by: Katy  
#### Measured: Friday, August 14, 2009 4:32:22 PM

#### Particle Name: Fraunhofer  
#### Dispersant Name: Water  
#### Particle RI: 0.000  
#### Dispersant RI: 1.330  
#### Absorption: 0  
#### Inclusive SD (Sorting Coeff.) = 1.99 phi (Poorly Sorted)  
#### Inclusive Skewness = -0.22 (Coarse Skewed)  
#### Inclusive Kurtosis = 0.89 phi (Platykurtic)  
#### Inclusive Mean = 6.42 phi (Silt)

#### Particle Size Distribution

**Volume (%)**

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<th>Volume (%)</th>
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<tr>
<td>1000</td>
<td>1000</td>
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<tr>
<td>3000</td>
<td>3000</td>
</tr>
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</table>

**Particle Size (µm)**

- **D[4,3]**: 41.49um = 4.59phi
- **D[v,0.5]**: 14.45um = 6.11phi
- **D[v,0.05]**: 1.02um = 9.94phi
- **D[v,0.16]**: 2.48um = 8.65phi
- **D[v,0.95]**: 78.3um = 3.67phi

**Kurtosis**: 67.72  
**Skewness**: 7.85

**Obscuration**: 21.13

**Inclusive Mean = 6.42 phi (Silt)**

#### Notes:

- **d (0.1): 1.604 um**
- **d (0.5): 14.453**
- **d (0.9): 56.838**

---

**Inclusive SD (Sorting Coeff.) = 1.99 phi (Poorly Sorted)**

- **Inclusive Skewness = -0.22 (Coarse Skewed)**
- **Inclusive Kurtosis = 0.89 phi (Platykurtic)**
- **Inclusive Mean = 6.42 phi (Silt)**

**USGS**

- % Clay (0-2 um) = 12.92
- % Fine Silt (2-3.9 um) = 10.12

**Wentworth**

- % Clay (0-3.9 um) = 23.04
- % Silt (3.91-31 um) = 50.26
- % Coarse Silt (31-62.5 um) = 18.51
- % Very Fine sand (62.5-125 um) = 4.81
- % Clay (0-3.9 um) = 12.92
- % Medium sand (250-500 um) = 4.81
- % Fine sand (125-250 um) = 15
- % Coarse sand (500-1000 um) = .6
- % Very Coarse sand (1000-2000 um) = .87

**Results**

<table>
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<th>% Below</th>
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### Grain-Size Analysis Report

**Sample:** 20-1-E - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Katy  
**Measured:** Friday, August 14, 2009 4:36:56 PM

**Particle Name:** Fraunhofer  
**Dispersant Name:** Water  
**Dispersant RI:** 0.000  
**Particle RI:** 1.330  
**Absorption:** 0  
**Inclusive SD (Sorting Coeff.)** = 2.01 phi (Very Poorly Sorted)  
**Inclusive Kurtosis** = .88 phi (Platykurtic)  
**Inclusive Skewness** = -0.19 (Coarse Skewed)  
**Inclusive Mean** = 6.48 phi (Silt)

**Dispersant Name:** Water  
**Dispersant RI:** 1.330  
**Absorption:** 0  
**Inclusive SD (Sorting Coeff.)** = 2.01 phi (Very Poorly Sorted)  
**Inclusive Kurtosis** = .88 phi (Platykurtic)  
**Inclusive Skewness** = -0.19 (Coarse Skewed)  
**Inclusive Mean** = 6.48 phi (Silt)

**Table: Particle Size Distribution**

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</table>

**Notes:**

**Malvern Instruments Ltd.**  
**Malvern, UK**  
**Mastersizer 2000 Ver. 5.22**  
**Serial Number : MAL101534**  
**File name: DAMOS.mea**  
**Record Number: 1056**
## Grain-Size Analysis Report

**Sample:** 20-1-F - Average  
**Source:**  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured:** Friday, August 14, 2009 4:41:20 PM

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### Particle Size Distribution

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### Notes:

- **Dispersant Name:** Fraunhofer  
- **Dispersant RI:** 1.330

### Sample Results:

- **USGS**
  - % Clay (0-2 um) = 12.79
  - % Fine Silt (2-3.9 um) = 10.07
- **Wentworth**
  - % Clay (0-3.9 um) = 28.35
  - % Medium sand (250-500 um) = 27.69
- **Inclusive SD (Sorting Coeff.) = 2.01 phi (Very Poorly Sorted)**
- **Inclusive Skewness = -0.21 (Coarse Skewed)**
- **Inclusive Kurtosis = .88 phi (Platykurtic)**
Grain-Size Analysis Report

Sample: 21-1-B - Average  
Source: DAMOS  
Cruise: DAMOS  
SOP Name: DAMOS  
Measured by: Katy  
Measured: Friday, August 14, 2009 10:46:53 AM

Inclusive Mean = 6.35 phi (Silt)  
Inclusive Skewness = -0.26 (Coarse Skewed)  
Inclusive Kurtosis = .87 phi (Platykurtic)

USGS
% Clay (0-2 um) = 12.59  
% Fine Silt (2-3.9 um) = 9.7

Wentworth
% Clay (0-3.9 um) = 22.3  
% Silt (3.91-31 um) = 48.74  
% Fine sand (125-250 um) = .45  
% Medium sand (250-500 um) = 0

% Coarse silt (31 - 62.5 um) = 20.79  
% Very Fine sand (62.5 - 125 um) = 7.73  
% Coarse sand (500-1000 um) = 0

% Very Coarse sand (1000 - 2000 um) = 0

Notes:

Malvern Instruments Ltd.  
Malvern, UK  
Mastersizer 2000 Ver. 5.22  
Serial Number : MAL101534  
File name: DAMOS.mea  
Record Number: 948
Grain-Size Analysis Report

Sample: 21-1-C - Average  
Source:  
Cruse: DAMOS  
SOP Name: DAMOS  
Measured by: Katy  
Measured: Friday, August 14, 2009 10:51:22 AM

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D[4,3] = 44.03um = 4.51phi  
D[v,0.5] = 14.74um = 6.08phi  
Kurtosis = 61.69  
Skewness = 7.48  
Standard Deviation = 153.62 um = 2.7phi

Inclusive SD (Sorting Coeff.) = 2.01 phi (Very Poorly Sorted)  
Inclusive Skewness = -0.22 (Coarse Skewed)  
Inclusive Mean = 6.4 phi (Silt)

USGS

% Clay (0-2 um) = 12.98  
% Fine Silt (2-3.9 um) = 10.1

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<th>% Below</th>
<th>Size Hi</th>
<th>phi</th>
<th>um</th>
<th>% In</th>
<th>% Below</th>
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<td>1.0</td>
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<td>0.52</td>
<td>98.43</td>
<td>9.0</td>
<td>(1.95)</td>
</tr>
<tr>
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<td>1.0</td>
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<td>1.5</td>
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<td>0.35</td>
<td>97.91</td>
<td>9.5</td>
<td>(1.38)</td>
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<td>1.5</td>
<td>(353.55)</td>
<td>2.0</td>
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<td>0.12</td>
<td>97.42</td>
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<td>(31.25)</td>
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<td>15.63</td>
<td>9.9</td>
<td>61.44</td>
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Notes:

- Obscuration:
  - 23.35

- 21-1-C - Average, Friday, August 14, 2009 10:51:22 AM

- 21-1-C - Average, Friday, August 14, 2009 10:51:22 AM
Grain-Size Analysis Report

Sample: 21-1-D - Average
Source: DAMOS
Cruise: DAMOS

<table>
<thead>
<tr>
<th>Particle Name</th>
<th>Dispersant Name</th>
<th>Particle RI</th>
<th>Dispersant RI</th>
<th>Absorption</th>
<th>Obscuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse Silt (31 - 62.5 um) = 19.35</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>15.50</td>
</tr>
<tr>
<td>Fine Sand (125-250 um) = 0.16</td>
<td>Water</td>
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<td>1.330</td>
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<tr>
<td>Very Coarse Sand (1000-2000 um) = 0</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
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<td>15.50</td>
</tr>
<tr>
<td>Very Fine Sand (62.5 - 125 um) = 6.77</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
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<td>15.50</td>
</tr>
<tr>
<td>Medium Sand (250-500 um) = 0</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>15.50</td>
</tr>
<tr>
<td>Coarse Silt (31 - 62.5 um) = 19.35</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>15.50</td>
</tr>
<tr>
<td>Fine Silt (2-3.9 um) = 10.21</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
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<td>15.50</td>
</tr>
<tr>
<td>Clay (0-2 um) = 12.75</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>15.50</td>
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</tbody>
</table>

Inclusive SD (Sorting Coeff.) = 1.95 phi (Poorly Sorted) Inclusive Kurtosis = .87 phi (Platykurtic) Inclusive Mean = 6.44 phi (Silt)

USGS Wentworth
% Clay (0-2 um) = 12.75 % Clay (0-3.9 um) = 22.96 % Fine Sand (125-250 um) = .16
% Silt (2-3.9 um) = 10.21 % Silt (3.91-31 um) = 50.76 % Medium Sand (250-500 um) = 0
% Clay (0-3.9 um) = 22.96 % Silt (3.91-31 um) = 50.76 % Coarse Sand (500-1000 um) = 0
% Coarse Silt (31 - 62.5 um) = 19.35 % Very Fine Sand (62.5 - 125 um) = 6.77 % Very Coarse Sand (1000 - 2000 um) = 0
% Very Fine Sand (62.5 - 125 um) = 6.77 % Very Coarse Sand (1000 - 2000 um) = 0
% Very Coarse Sand (1000 - 2000 um) = 0

Notes:

Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
Record Number: 956

File name: DAMOS.mea
Grain-Size Analysis Report

Sample: 21-1-E - Average
Source: DAMOS
Cruise: Katy

Particle Name: Fraunhofer
Dispersant Name: Water

<table>
<thead>
<tr>
<th>Size Hi phi</th>
<th>Size Lo phi</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
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<td>0.45</td>
<td>100</td>
</tr>
<tr>
<td>1000.00</td>
<td>1000.00</td>
<td>0.81</td>
<td>99.55</td>
</tr>
<tr>
<td>707.10</td>
<td>707.10</td>
<td>0.77</td>
<td>98.74</td>
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<tr>
<td>500.00</td>
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<td>0.54</td>
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<td>97.09</td>
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<td>125.00</td>
<td>125.00</td>
<td>0.34</td>
<td>97.09</td>
</tr>
<tr>
<td>88.99</td>
<td>88.99</td>
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<td>96.75</td>
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<td>94.51</td>
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<td>8.24</td>
<td>50.5</td>
</tr>
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<td>7.81</td>
<td>7.31</td>
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<td>5.52</td>
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<td>34.95</td>
</tr>
<tr>
<td>3.90</td>
<td>3.90</td>
<td>5.92</td>
<td>28.41</td>
</tr>
<tr>
<td>2.76</td>
<td>2.76</td>
<td>5.39</td>
<td>22.49</td>
</tr>
</tbody>
</table>

Notes:

- Inclusive SD (Sorting Coeff.) = 2.06 phi (Very Poorly Sorted)  Inclusive Skewness = -0.2 (Coarse Skewed)  Inclusive Kurtosis = .88 phi (Platykurtic)
- Inclusive Mean = 6.32 phi (Silt)

Graphical representation of particle size distribution

---

Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 960
## Grain-Size Analysis Report

**Sample:** 21-1-F - Average  
**Source:** USGS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Katy  
**Measured:** Friday, August 14, 2009 12:03:14 PM  

### Particle Name: Fraunhofer  
### Dispersant Name: Water  
### Particle RI: 0.000  
### Dispersant RI: 1.330  
### Absorption: 0  

### Particle Size Distribution

![Particle Size Distribution Graph](image)

- **D[4.3] = 28.61um = 5.13phi**  
- **D[v,0.5] = 14.6um = 6.1phi**  
- **D[v,0.16] = 2.5um = 8.64phi**  
- **D[v,0.05] = 1.02um = 9.94phi**  
- **D[v,0.01] = 0.31um = 10.3phi**

### Obscuration:
- **21.58**

### Inclusive SD (Sorting Coeff.) = 1.97 phi (Poorly Sorted)

### Inclusive Skewness = -0.24 (Coarse Skewed)

### Inclusive Kurtosis = 6.41 phi (Silt)

### USGS
- **% Clay (0-2 um) = 12.83**  
- **% Fine Silt (2-3.9 um) = 10.06**

### Wentworth
- **% Clay (3.91-31 um) = 22.89**  
- **% Silt (3.91-31 um) = 49.96**

### Notes:
- **d (0.1) : 1.609 um**
- **d (0.5) : 14.603**
- **d (0.9) : 55.537**

---

**Size Hi** | **Size Lo** | **% In** | **% Below** | **Size Hi** | **Size Lo** | **% In** | **% Below**
---|---|---|---|---|---|---|---
-1 | (2000.00) | -0.5 | (1414.21) | 0 | 100 | 8.0 | (3.90) | 8.5 | (2.76) | 5.46 | 22.92
-0.5 | (1414.21) | 0.0 | (1000.00) | 0.06 | 100 | 8.5 | (2.76) | 9.0 | (1.95) | 4.95 | 17.46
0.0 | (1000.00) | 0.5 | (707.10) | 0.35 | 99.94 | 9.0 | (1.95) | 9.5 | (1.38) | 4.34 | 12.51
0.5 | (707.10) | 1.0 | (500.00) | 0.38 | 99.59 | 9.5 | (1.38) | 10.0 | (0.98) | 3.52 | 8.17
1.0 | (500.00) | 1.5 | (353.55) | 0.25 | 99.21 | 10.0 | (0.98) | 10.5 | (0.69) | 2.52 | 4.65
1.5 | (353.55) | 2.0 | (250.00) | 0.05 | 98.96 | 10.5 | (0.69) | 11.0 | (0.49) | 1.48 | 2.13
2.0 | (250.00) | 2.5 | (176.78) | 0 | 98.91 | 11.0 | (0.49) | 11.5 | (0.35) | 0.59 | 0.65
2.5 | (176.78) | 3.0 | (125.00) | 0.05 | 98.91 | 11.5 | (0.35) | 12.0 | (0.24) | 0.06 | 0.06
3.0 | (125.00) | 3.5 | (88.39) | 1.57 | 98.36 | 12.0 | (0.24) | 12.5 | (0.17) | 0 | 0
3.5 | (88.39) | 4.0 | (62.50) | 4.78 | 97.29 | 12.5 | (0.17) | 13.0 | (0.12) | 0 | 0
4.0 | (62.50) | 4.5 | (44.19) | 8.49 | 92.51 | 13.0 | (0.12) | 13.5 | (0.086) | 0 | 0
4.5 | (44.19) | 5.0 | (31.25) | 10.9 | 84.01 | 13.5 | (0.086) | 14.0 | (0.061) | 0 | 0
5.0 | (31.25) | 5.5 | (22.10) | 11.2 | 73.12 | 13.5 | (0.086) | 14.0 | (0.061) | 0 | 0
5.5 | (22.10) | 6.0 | (15.63) | 10.11 | 61.92 | 14.0 | (0.061) | 14.5 | (0.043) | 0 | 0
6.0 | (15.63) | 6.5 | (11.05) | 8.71 | 51.81 | 14.5 | (0.043) | 15.0 | (0.030) | 0 | 0
6.5 | (11.05) | 7.0 | (7.81) | 7.54 | 43.1 | 14.5 | (0.043) | 15.0 | (0.030) | 0 | 0
7.0 | (7.81) | 7.5 | (5.52) | 6.65 | 35.56 | 15.0 | (0.030) | 15.5 | (0.020) | 0 | 0
7.5 | (5.52) | 8.0 | (3.90) | 5.99 | 28.91

**Notes:**
### Grain-Size Analysis Report

**Sample:** 22-1-A - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**Measured:** Friday, August 14, 2009 12:08:08 PM

#### Particle Name: Fraunhofer  
**Dispersant Name:** Water

<table>
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<tr>
<th>Particle RI</th>
<th>Absorption</th>
<th>Obscuration</th>
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</thead>
<tbody>
<tr>
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<td>0</td>
<td>20.06</td>
</tr>
</tbody>
</table>

**Dispersant RI:** 1.330

**Obscuration:** 20.06

**Mean:** 6.3 phi

**Kurtosis:** .9 phi (Platykurtic)

**Skewness:** -0.21 (Coarse Skewed)

**Inclusive SD (Sorting Coeff.)** = 2.06 phi (Very Poorly Sorted)

**Kurtosis =** 63.36

**Skewness =** 7.54

**Standard Deviation =** 152.88 um = 2.71phi

### Particle Size Distribution

![Particle Size Distribution Graph](image-url)

**Notes:**

- **d (0.1) : 1.656 um**
- **d (0.5) : 15.679 um**
- **d (0.9) : 65.919 um**

**Volume (%)**

**Particle Size (µm)**

<table>
<thead>
<tr>
<th>Size Hi</th>
<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
<th>Size Hi</th>
<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
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<td>phi</td>
<td>um</td>
<td>phi</td>
<td>um</td>
<td>phi</td>
<td>um</td>
<td>phi</td>
<td>um</td>
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<tr>
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<td>-0.5</td>
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<td>0.33</td>
<td>100</td>
<td>8.0</td>
<td>(3.90)</td>
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<td>(1414.21)</td>
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<td>(1000.00)</td>
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<td>8.5</td>
<td>(2.76)</td>
</tr>
<tr>
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<td>(1000.00)</td>
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<td>(707.10)</td>
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<td>(1.95)</td>
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<td>(707.10)</td>
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<td>98.53</td>
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<td>(250.00)</td>
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<td>97.61</td>
<td>10.5</td>
<td>(0.69)</td>
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<tr>
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<td>(250.00)</td>
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<td>(176.78)</td>
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<td>88.96</td>
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</tr>
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<td>(11.05)</td>
<td>8.25</td>
<td>49.91</td>
<td>15.0</td>
<td>(0.030)</td>
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</table>

**Notes:**

- **d (0.9) : 65.919 um**
- **d (0.5) : 15.679 um**
- **d (0.1) : 1.656 um**

**Size Hi (phi):** 
- 0.01, 0.1, 1, 10, 100, 1000, 3000

**Size Lo (um):** 
- 0.1, 1, 2, 3, 4, 5

- **Volume (%):** 0 to 100

**Malvern Instruments Ltd.**

**Mastersizer 2000 Ver. 5.22**

**Serial Number:** MAL101534

**Record Number:** 968
Grain-Size Analysis Report

Sample: 22-1-B - Average  
Source: USGS  
Cruise: DAMOS  
Measured: Friday, August 14, 2009 12:13:26 PM

Particle Name: Fraunhofer  
Dispersant Name: Water  
Particle RI: 0.000  
Dispersant RI: 1.330  
Absorption: 0  
Obscuration: 19.41

<table>
<thead>
<tr>
<th>Size Hi (um)</th>
<th>Size Lo (um)</th>
<th>% In</th>
<th>% Below</th>
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<tr>
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Notes:
## Grain-Size Analysis Report

**Sample:** 22-1-C - Average  
**Source:**  
**Cruise:** DAMOS  
**Measured by:** Katy  
**Measured:** Friday, August 14, 2009 12:17:53 PM  

### Particle Name: Fraunhofer  
**Dispersant Name:** Water  
**Particle RI:** 0.000  
**Dispersant RI:** 1.330  
**Absorption:** 0  
**Obscuration:** 20.36  

### Inclusive SD (Sorting Coeff.) = 1.98 phi (Poorly Sorted)  
Inclusive Kurtosis = .88 phi (Platykurtic)  
Inclusive Mean = 6.39 phi (Silt)

### USGS
- % Clay (0-2 um) = 12.97  
- % Fine Silt (2-3.9 um) = 9.75  
  
### Wentworth  
- % Clay (0-3.9 um) = 22.72  
- % Silt (3.91-31 um) = 49.7  
- % Coarse Silt (31 - 62.5 um) = 20.03  
- % Fine sand (125-250 um) = .03  
- % Medium sand (250-500 um) = .29  
- % Coarse sand (500-1000 um) = .88  
- % Very Fine sand (62.5 - 125 um) = 5.69  
- % Very Coarse sand (1000 - 2000 um) = .65

### Particle Size Distribution

#### Size Hi
<table>
<thead>
<tr>
<th>phi</th>
<th>um</th>
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<th>% Below</th>
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<td>98.18</td>
</tr>
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<td>125.00</td>
<td>0.00</td>
<td>98.18</td>
</tr>
<tr>
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<td>88.39</td>
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<td>98.15</td>
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<td>62.50</td>
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<td>98.15</td>
</tr>
<tr>
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<td>5.52</td>
<td>0.00</td>
<td>98.15</td>
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#### Size Lo
<table>
<thead>
<tr>
<th>phi</th>
<th>um</th>
<th>% In</th>
<th>% Below</th>
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</thead>
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<td>100</td>
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<td>5.52</td>
<td>0.00</td>
<td>98.15</td>
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### Notes:
- d (0.1) : 1.590 um
- d (0.5) : 15.326 um
- d (0.9) : 55.486 um
## Grain-Size Analysis Report

### Sample: 22-1-D - Average

<table>
<thead>
<tr>
<th>Source: DAMOS</th>
<th>Measured by: Katy</th>
<th>Measured: Friday, August 14, 2009 12:22:36 PM</th>
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### Particle Size Distribution

**Dispersant Name:** Fraunhofer  
**Dispersant RI:** 0.000  
**Absorption:** 0  
**Obscuration:** 20.39

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Inclusive SD (Sorting Coeff.)</th>
<th>Kurtosis = .88 phi (Platykurtic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse Silt (31 - 62.5 um)</td>
<td>21.3</td>
<td>84.28</td>
</tr>
<tr>
<td>Medium sand (250-500 um)</td>
<td>.3</td>
<td>19.28</td>
</tr>
<tr>
<td>Fine sand (125-250 um)</td>
<td>.28</td>
<td>2.48</td>
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<td>Clay (0-2 um)</td>
<td>12.27</td>
<td>20.39</td>
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<tr>
<td>Very Fine sand (62.5 - 125 um)</td>
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<td>12.52</td>
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<tr>
<td>Very Coarse sand (1000 - 2000 um)</td>
<td>.65</td>
<td>3.02</td>
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<tr>
<td>Fine Silt (2-3.9 um)</td>
<td>9.24</td>
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<tr>
<td>Very Fine Silt (2-3.9 um)</td>
<td>9.24</td>
<td>4.32</td>
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</table>

### Particle Parameters

- \( D[4,3] = 40.22 \text{um} = 4.64 \text{phi} \)
- \( D[0.5] = 16.95 \text{um} = 5.88 \text{phi} \)
- \( D[0.05] = 4.98 \text{um} = 5.88 \text{phi} \)
- \( D[0.16] = 2.65 \text{um} = 8.56 \text{phi} \)
- \( D[0.01] = 1.04 \text{um} = 16.56 \text{phi} \)
- \( D[0.95] = 83.58 \text{um} = 3.56 \text{phi} \)
- \( D[v,0.5] = 49.81 \text{um} = 4.33 \text{phi} \)
- \( D[v,0.05] = 500.00 \text{um} = 3.56 \text{phi} \)

**USGS**
- % Clay (0-2 um) = 12.27
- % Fine Silt (2-3.9 um) = 9.24

**Wentworth**
- % Fine sand (125-250 um) = .28
- % Medium sand (250-500 um) = .3
- % Coarse sand (500-1000 um) = .9
- % Very Coarse sand (1000 - 2000 um) = .65

### Particle Size Distribution Graph

![Particle Size Distribution Graph](attachment://22-1-D - Average, Friday, August 14, 2009 12:22:36 PM)

### Notes:

- **Inclusive Mean = 6.26 phi (Silt)**
- **Inclusive SD (Sorting Coeff.) = 2.02 phi (Very Poorly Sorted)**
- **Inclusive Skewness = -0.27 (Coarse Skewed)**

---

**Notes:**

- **Dispersant Name:** Fraunhofer  
- **Dispersant RI:** 0.000  
- **Absorption:** 0  
- **Obscuration:** 20.39

**Dispersant Name:** Water  
**Dispersant RI:** 1.330  
**Inclusive SD (Sorting Coeff.) = 2.02 phi (Very PoorlySorted)**  
**Inclusive Kurtosis = .88 phi (Platykurtic)**  
**Inclusive Mean = 6.26 phi (Silt)**

---

**Notes:**

- **Dispersant Name:** Fraunhofer  
- **Dispersant RI:** 0.000  
- **Absorption:** 0  
- **Obscuration:** 20.39

**Dispersant Name:** Water  
**Dispersant RI:** 1.330  
**Inclusive SD (Sorting Coeff.) = 2.02 phi (Very Poorly Sorted)**  
**Inclusive Kurtosis = .88 phi (Platykurtic)**  
**Inclusive Mean = 6.26 phi (Silt)**
Grain-Size Analysis Report

Sample: 22-1-E - Average
Source: USGS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water

<table>
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<tr>
<th>Particle Size (µm)</th>
<th>Volume (%)</th>
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</tr>
<tr>
<td>1000000 - 1000000</td>
<td>10</td>
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<tr>
<td>10000000 - 1000000</td>
<td>11</td>
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</table>

Wentworth

% Clay (0-2 µm) = 12.32
% Fine Silt (2-3.9 µm) = 9.59
% Coarse Silt (31 - 62.5 µm) = 20.51
% Very Fine sand (62.5 - 125 µm) = 6.9

USGS

% Clay (0-3.9 µm) = 21.91
% Silt (3.91-31 um) = 48.99
% Coarse Silt (31 - 62.5 um) = 20.51
% Very Fine sand (62.5 - 125 um) = 6.9

Notes:

- d (0.1) : 1.664 µm
- d (0.5) : 15.879 µm
- d (0.9) : 58.545 µm

Results:

- D[4,3] = 33.52 µm = 4.9 phi
- D[v,0.5] = 15.88 µm = 5.98 phi
- D[v,0.05] = 2.64 µm = 3.69 phi
- D[v,0.16] = 2.62 µm = 8.56 phi
- D[v,0.01] = 0.0164 µm = 9.37 phi

- Kurtosis = 105.62
- Skewness = 9.4
- Inclusive SD (Sorting Coeff.) = 1.98 phi (Poorly Sorted)
- Inclusive Kurtosis = .88 phi (Platykurtic)
- Inclusive Mean = 6.33 phi (Silt)

- Obscuration : 14.63
- Inclusive Skewness = -0.26 (Coarse Skewed)

Notes:

d (0.1) : 1.664 µm
d (0.5) : 15.879 µm
d (0.9) : 58.545 µm

- d (0.9) : 58.545
- d (0.5) : 15.879
- d (0.1) : 1.664

- Kurtosis = 105.62
- Skewness = 9.4
- Inclusive SD (Sorting Coeff.) = 1.98 phi (Poorly Sorted)
- Inclusive Kurtosis = .88 phi (Platykurtic)
- Inclusive Mean = 6.33 phi (Silt)

Notes:

- Obscuration : 14.63
- Inclusive Skewness = -0.26 (Coarse Skewed)
Grain-Size Analysis Report

Sample: 22-1-F - Average
Source: USGS
Cruiise: DAMOS
SOP Name: DAMOS
Measured by: Katy
Measured: Friday, August 14, 2009 12:32:33 PM

Notes:

<table>
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<tr>
<th>Particle Name:</th>
<th>Fraunhofer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispersant Name:</td>
<td>Water</td>
</tr>
<tr>
<td>Particle DI:</td>
<td>Absorption: 0</td>
</tr>
<tr>
<td>Dispersant RI:</td>
<td>1.330</td>
</tr>
</tbody>
</table>

**Source:**
- % Fine Silt (2-3.9 um) = 9.48
- % Clay (0-2 um) = 12.32

**Sample:**
- % Medium Sand (250-500 um) = 21.13
- % Fine Sand (125-250 um) = 8.1
- % Coarse Sand (500-1000 um) = 3.15
- % Very Fine Sand (62.5-125 um) = 8.1

**Inclusive SD (Sorting Coeff.) = 2.01 phi (Very Poorly Sorted)**
**Inclusive Skewness = -0.26 (Coarse Skewed)**
**Inclusive Kurtosis = .87 phi (Platykurtic)**

**USGS**
- % Clay (0-2 um) = 12.32
- % Fine Silt (2-3.9 um) = 9.48

**Wentworth**
- % Fine Sand (125-250 um) = .26
- % Medium Sand (250-500 um) = .21
- % Coarse Sand (500-1000 um) = .71
- % Very Coarse Sand (1000-2000 um) = .57

**D[4,3] = 37.56um = 4.73phi**
**D[v,0.5] = 16.6um = 5.91phi**
**Kurtosis = 101.41**
**Skewness = 9.47**
**D[v,0.05] = 1.04um = 8.91phi**
**D[v,0.16] = 2.63um = 8.57phi**
**D[v,0.95] = 81.65um = 3.61phi**

**Standard Deviation = 122.09 um = 3.03phi**

**Grain-Size Analysis Report**

**22-1-F - Average, Friday, August 14, 2009 12:32:33 PM**
### Grain-Size Analysis Report

**Sample:** 23-1-A - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Katy  
**Measured:** Friday, August 14, 2009 4:45:43 PM

<table>
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<th>Particle RI:</th>
<th>Dispersant RI:</th>
<th>Inclusive Mean</th>
<th>Inclusive SD (Sorting Coeff.)</th>
<th>Inclusive Kurtosis</th>
<th>Kurtosis</th>
<th>Skewness</th>
<th>Obscuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse Silt (31 - 62.5 µm) = 19</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>6.22 phi (Silt)</td>
<td>2.07 phi (Very Poorly Sorted)</td>
<td>.96 phi (Mesokurtic)</td>
<td>47.57</td>
<td>6.45</td>
<td>19.22</td>
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<tr>
<td>Very Fine sand (62.5 - 125 um) = 7.2</td>
<td>Fraunhofer</td>
<td>15.0</td>
<td>0.91</td>
<td>1.89</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Coarse sand (1000 - 2000 um) = .87</td>
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<td>1.38</td>
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<td>Clay (0-2 um) = 11.44</td>
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<tr>
<td>Silt (3.91-31 um) = 48.53</td>
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<td>0.05</td>
<td>5.52</td>
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<td></td>
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<tr>
<td>Fine Silt (2-3.9 um) = 9.17</td>
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<td>1.5</td>
<td>0.16</td>
<td>114.95 um = 3.12phi</td>
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<tr>
<td>Fine sand (125-250 um) = .83</td>
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<td>1.330</td>
<td>6.22 phi (Silt)</td>
<td>2.07 phi (Very Poorly Sorted)</td>
<td>.96 phi (Mesokurtic)</td>
<td>47.57</td>
<td>6.45</td>
<td>19.22</td>
</tr>
</tbody>
</table>

**Notes:**

- Inclusive SD (Sorting Coeff.) = 2.07 phi (Very Poorly Sorted)  
- Inclusive Skewness = -0.19 (Coarse Skewed)  
- Inclusive Kurtosis = .96 phi (Mesokurtic)  

**USGS**  
\[
\begin{align*}
\text{% Clay (0-2 um)} & = 11.44 \\
\text{% Fine Silt (2-3.9 um)} & = 9.17 \\
\text{d (0.1)} & = 1.774 \text{um} \\
\text{d (0.5)} & = 16.614 \text{um} \\
\text{d (0.9)} & = 69.408 \text{um}
\end{align*}
\]

**D**

- \( D_[4,3] = 51.75 \text{um} = 4.27\text{phi} \)
- \( D_[v,0.5] = 16.61 \text{um} = 5.91\text{phi} \)
- \( D_[v,0.16] = 2.84 \text{um} = 8.46\text{phi} \)
- \( D_[v,0.05] = 1.09 \text{um} = 8.84\text{phi} \)
- \( D_[v,0.01] = 0.1 \text{um} = 9.84\text{phi} \)

---

**Notes:**

- \( D_[v,0.05] = 1.09 \text{um} = 8.84\text{phi} \)
- \( D_[v,0.16] = 2.84 \text{um} = 8.46\text{phi} \)
- \( D_[v,0.01] = 0.1 \text{um} = 9.84\text{phi} \)
- \( D_[v,0.5] = 16.61 \text{um} = 5.91\text{phi} \)
- \( D_[v,0.05] = 1.09 \text{um} = 8.84\text{phi} \)
- \( D_[v,0.16] = 2.84 \text{um} = 8.46\text{phi} \)
- \( D_[v,0.01] = 0.1 \text{um} = 9.84\text{phi} \)

---

**Notes:**

- \( D_[v,0.05] = 1.09 \text{um} = 8.84\text{phi} \)
- \( D_[v,0.16] = 2.84 \text{um} = 8.46\text{phi} \)
- \( D_[v,0.01] = 0.1 \text{um} = 9.84\text{phi} \)
- \( D_[v,0.5] = 16.61 \text{um} = 5.91\text{phi} \)
- \( D_[v,0.05] = 1.09 \text{um} = 8.84\text{phi} \)
- \( D_[v,0.16] = 2.84 \text{um} = 8.46\text{phi} \)
- \( D_[v,0.01] = 0.1 \text{um} = 9.84\text{phi} \)

---

**Notes:**

- \( D_[v,0.05] = 1.09 \text{um} = 8.84\text{phi} \)
- \( D_[v,0.16] = 2.84 \text{um} = 8.46\text{phi} \)
- \( D_[v,0.01] = 0.1 \text{um} = 9.84\text{phi} \)
- \( D_[v,0.5] = 16.61 \text{um} = 5.91\text{phi} \)
- \( D_[v,0.05] = 1.09 \text{um} = 8.84\text{phi} \)
- \( D_[v,0.16] = 2.84 \text{um} = 8.46\text{phi} \)
- \( D_[v,0.01] = 0.1 \text{um} = 9.84\text{phi} \)
## Grain-Size Analysis Report

**Sample:** 23-1-B - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Katy  
**Measured:** Friday, August 14, 2009 4:49:59 PM

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### Inclusive SD (Sorting Coeff.)
- 1.98 phi (Poorly Sorted)

### Inclusive Kurtosis
- .92 phi (Mesokurtic)

### Inclusice Skewness
- -0.22 (Coarse Skewed)

### Inclusive Mean
- 6.37 phi (Silt)

### USGS
- % Clay (0-2 um) = 12.21
- % Fine Silt (2-3.9 um) = 9.66
- % Silt (3.91-31 um) = 51.04
- % Clay (0-3.9 um) = 21.87

### Wentworth
- % Fine sand (125-250 um) = .18
- % Medium sand (250-500 um) = .26
- % Coarse sand (500-1000 um) = 1.39
- % Very Coarse sand (1000 - 2000 um) = 1.25

---

### Grain Size Distribution

![Particle Size Distribution](image)

---

### Particle Size Distribution

<table>
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<th>Size Lo</th>
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<th>% Below</th>
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### Inclusive Mean
- 6.37 phi (Silt)

### Inclusive Kurtosis
- .92 phi (Mesokurtic)

### Inclusive Skewness
- -0.22 (Coarse Skewed)

### Inclusive SD (Sorting Coeff.)
- 1.98 phi (Poorly Sorted)

---

### Notes:

**Malvern Instruments Ltd.**  
Malvern, UK  
**Mastersizer 2000 Ver. 5.22**  
**File name:** DAMOS.mea  
**Serial Number:** MAL101534  
**Record Number:** 1068
Grain-Size Analysis Report

Sample: 23-1-C - Average  
Source: DAMOS  
Cruise: DAMOS  
SOP Name: DAMOS  
Measured by: Katy  
Measured: Friday, August 14, 2009 4:54:24 PM

Particle Name: Standards Name: Fraunhofer  
Dispersant Name: Water  
Particle RI: 0.000  
Dispersant RI: 1.330  
Absorption: 0  
Occlusion: 21.87

D[4,3] = 37.88 um = 4.72 phi  
D[\nu,0.5] = 0.148 um = 0.068 phi  
Kurtosis = 86.27  
Skewness = 8.76

Inclusive SD (Sorting Coeff.) = 1.99 phi (Poorly Sorted)  
Inclusive Skewness = -0.22 (Coarse Skewed)  
Inclusive Kurtosis = 0.88 phi (Platykurtic)

USGS
% Clay (0-2 um) = 12.38  
% Fine Silt (2-3.9 um) = 9.98

Wentworth
% Clay (0-3.9 um) = 22.36  
% Silt (3.91-31 um) = 49.65

Notes:

Malvern Instruments Ltd.  
Malvern, UK  
Mastersizer 2000 Ver. 5.22  
Serial Number : MAL101534  
File name: DAMOS.mea  
Record Number: 1072
### Grain-Size Analysis Report

**Sample:** 23-1-D - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**Measured by:** Katy  
**Measured:** Friday, August 14, 2009 4:58:49 PM

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<td>Very Coarse sand (1000 - 2000 um)</td>
<td>Water</td>
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<td>2.7phi</td>
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**Inclusive SD (Sorting Coeff.) = 2.01 phi (Very Poorly Sorted)**  
**Inclusive Skewness = -0.22 (Coarse Skewed)**  
**Inclusive Kurtosis = 0.87 phi (Platykurtic)**

**Inclusive Mean = 6.42 phi (Silt)**

---

**Notes:**

- **D[0.1]:** 1.564 µm  
- **D[0.5]:** 14.540 µm  
- **D[0.9]:** 58.066 µm

---

**Size HI**  
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<th>% Below</th>
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**Size Lo**

**Obscuration:** 25.05

**Kurtosis:** 62.58

**Skewness:** 7.55

**Standard Deviation:** 153.4 µm = 2.7phi

**D[4,3]:** 43.33 µm = 4.53phi

**D[v,0.5]:** 14.54 µm = 6.1phi

**D[v,0.16]:** 2.42 µm = 8.69phi

**D[v,0.95]:** 79.29 µm = 3.66phi

---

**Malvern Instruments Ltd.**

**Malvern, UK**

**Mastersizer 2000 Ver. 5.22**

**Serial Number:** MAL101534

**File name:** DAMOS.mea

**Record Number:** 1076
### Grain-Size Analysis Report

#### Particle Name: Fraunhofer

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<th>Particle RI: 0.000</th>
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<th>Obscuration: 16.13</th>
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#### USGS

- **% Clay (0-2 um):** 11.49
- **% Fine Silt (2-3.9 um):** 9.23

#### Wentworth

- **% Clay (0-3.9 um):** 20.72
- **% Silt (3.91-31 um):** 50.35
- **% Coarse Silt (31-62.5 um):** 20.06
- **% Very Fine sand (62.5-125 um):** 7.46

### Particle Size Distribution

![Particle Size Distribution Graph](image)

### Table

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</tr>
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<td>5</td>
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<tr>
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<tr>
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<td>10000</td>
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<td>97.8</td>
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<td>97.7</td>
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</tr>
<tr>
<td>1000000</td>
<td>1000000</td>
<td>1000000</td>
<td>97.5</td>
</tr>
</tbody>
</table>

**Notes:**

- **D(4.3) = 32.93 um = 4.92 phi**
- **D[v,0.5] = 15.75 um = 5.99 phi**
- **D[v,0.16] = 2.82 um = 8.47 phi**
- **Kurtosis = 129.28**
- **Skewness = 10.56**
- **Inclusive Kurtosis = .91 phi (Mesokurtic)**
- **Inclusive Mean = 6.29 phi (Silt)**

---

**Grain-Size Analysis Report**

**Sample:** 23-1-E - Average

**Source:** DAMOS

**Cruise:** DAMOS

**SOP Name:** DAMOS

**Measured by:** Katy

**Measured:** Friday, August 14, 2009 5:03:18 PM

---

**Notes:**

- **d (0.1) : 1.768 um**
- **d (0.5) : 15.751 um**
- **d (0.9) : 59.297**

---

**Malvern Instruments Ltd.**

**Malvern, UK**

**Mastersizer 2000 Ver. 5.22**

**Serial Number : MAL101534**

**File name: DAMOS.mea**

**Record Number: 1080**
Grain-Size Analysis Report

Sample: 23-1-F - Average  
Source: USGS  
Cruise: DAMOS  
SOP Name: DAMOS  
Measured by: Katy  
Measured: Friday, August 14, 2009 5:07:44 PM

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Fraunhofer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispersant Name:</td>
<td>Water</td>
</tr>
<tr>
<td>Particle RI:</td>
<td>0.000</td>
</tr>
<tr>
<td>Inclusive SD (Sorting Coeff.) = 2.01 phi (Very Poorly Sorted)</td>
<td></td>
</tr>
</tbody>
</table>

| Dispersant RI: | 1.330 |
| Kurtosis = 44.25 |
| Skewness = 6.48 |
| Inclusive Mean = 6.31 phi (Silt) |

| D[4,3] | 51.54um = 4.28phi |
| D[v,0.5] | 16.1um = 5.96phi |
| D[v,0.16] | 84.29um = 3.57phi |

| Inclusive SD (Sorting Coeff.) = 2.01 phi (Very Poorly Sorted) |

| % Below |
|------------------|-----------------|------------------|------------------|
| Clay (0-2 um) = 12.35 |
| Fine Silt (2-3.9 um) = 9.47 |
| Coarse Silt (31 - 62.5 um) = 20.16 |
| Very Fine sand (62.5 - 125 um) = 6.5 |
| Clay (0-3.9 um) = 21.82 |
| Silt (3.91-31 um) = 48.58 |
| Coarse Silt (31 - 62.5 um) = 20.16 |
| Very Fine sand (62.5 - 125 um) = 6.5 |
| Fine sand (125-250 um) = .05 |
| Medium sand (250-500 um) = .18 |
| Coarse sand (500-1000 um) = 1.27 |
| Very Coarse sand (1000 - 2000 um) = 1.45 |

| % In |
|------------------|-----------------|-----------------|------------------|
| Clay (0-2 um) = 12.35 |
| Fine Silt (2-3.9 um) = 9.47 |
| Coarse Silt (31 - 62.5 um) = 20.16 |
| Very Fine sand (62.5 - 125 um) = 6.5 |
| Clay (0-3.9 um) = 21.82 |
| Silt (3.91-31 um) = 48.58 |
| Coarse Silt (31 - 62.5 um) = 20.16 |
| Very Fine sand (62.5 - 125 um) = 6.5 |
| Fine sand (125-250 um) = .05 |
| Medium sand (250-500 um) = .18 |
| Coarse sand (500-1000 um) = 1.27 |
| Very Coarse sand (1000 - 2000 um) = 1.45 |

| % Below |
|------------------|-----------------|-----------------|------------------|
| Clay (0-2 um) = 12.35 |
| Fine Silt (2-3.9 um) = 9.47 |
| Coarse Silt (31 - 62.5 um) = 20.16 |
| Very Fine sand (62.5 - 125 um) = 6.5 |
| Clay (0-3.9 um) = 21.82 |
| Silt (3.91-31 um) = 48.58 |
| Coarse Silt (31 - 62.5 um) = 20.16 |
| Very Fine sand (62.5 - 125 um) = 6.5 |
| Fine sand (125-250 um) = .05 |
| Medium sand (250-500 um) = .18 |
| Coarse sand (500-1000 um) = 1.27 |
| Very Coarse sand (1000 - 2000 um) = 1.45 |

Notes:

Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
Record Number: 1084

File name: DAMOS.mea
Grain-Size Analysis Report

Sample: 24-1A - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured: Thursday, August 06, 2009 9:04:25 AM
Measured by: Julie

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Fraunhofer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispersant Name:</td>
<td>Water</td>
</tr>
<tr>
<td>D[4,3] = 26.94um = 5.21phi</td>
<td></td>
</tr>
<tr>
<td>D[v,0.5] = 13.61um = 6.2phi</td>
<td></td>
</tr>
<tr>
<td>D[v,0.16] = 2.5um = 8.64phi</td>
<td></td>
</tr>
</tbody>
</table>

Inclusive SD (Sorting Coeff.) = 1.89 phi (Poorly Sorted)
Inclusive Kurtosis = .89 phi (Platykurtic)
Inclusive Mean = 6.51 phi (Silt)

USGS
% Clay (0-2 um) = 12.79
% Fine Silt (2-3.9 um) = 10.23

Wentworth
% Clay (0-3.9 um) = 23.02
% Silt (3.91-31 um) = 53.65
% Coarse Silt (31 - 62.5 um) = 18.03
% Very Fine sand (62.5 - 125 um) = 4.1
% Very Coarse sand (1000 - 2000 um) = .07

Notes:
- 24-1A - Average, Thursday, August 06, 2009 9:04:25 AM
**Grain-Size Analysis Report**

**Sample:** 24-1-B - Average  
**Source:** DAMOS  
**Cruise:** DAMOS

**Particle Name:** Fraunhofer  
**Dispersant Name:** Water  
**Particle RI:** 0.000  
**Dispersant RI:** 1.330  
**Absorption:** 0  
**Obscuration:** 17.76

- **D[4,3] = 37.62um = 4.73phi**
- **D[4,0.5] = 13.71um = 6.19phi**
- **D[4,0.16] = 2.44um = 8.60phi**

**Inclusive SD (Sorting Coeff.) = 1.95 phi (Poorly Sorted)**

**Kurtosis = 77.16**

**Skewness = 8.36**

**Obscuration:** 17.76

**Inclusive Mean = 6.48 phi (Silt)**

**USGS**

- **% Clay (0-2 um) = 13.11**
- **% Fine Silt (2-3.9 um) = 10.38**

**Wentworth**

- **% Clay (0-3.9 um) = 23.49**
- **% Silt (3.91-31 um) = 51.58**
- **% Coarse Silt (31 - 62.5 um) = 18.03**
- **% Very Fine sand (62.5 - 125 um) = 4.93**
- **% Fine sand (125-250 um) = .03**
- **% Medium sand (250-500 um) = .24**
- **% Coarse sand (500-1000 um) = .98**
- **% Very Coarse sand (1000 - 2000 um) = .72**

**Notes:**

**Malvern Instruments Ltd.**  
**Mastersizer 2000 Ver. 5.22**  
**Serial Number : MAL101534**  
**File name: DAMOS.mea**  
**Record Number: 244**
Grain-Size Analysis Report

Sample:  24-1-C - Average  
Source:  DAMOS  
Cruise:  DAMOS  
SOP Name:  DAMOS  
Measured by:  Julie  
Measured:  Thursday, August 06, 2009 9:14:00 AM

Particle Name:  Fraunhofer  
Dispersant Name:  Water  
Particle RI:  0.000  
Dispersant RI:  1.330  
Absorption:  0

<table>
<thead>
<tr>
<th>Size Hi phi</th>
<th>D_[4,3]</th>
<th>D_[v,0.5]</th>
<th>D_[v,0.05]</th>
<th>D_[v,0.16]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size Lo um</td>
<td>34.46um</td>
<td>14.8um</td>
<td>1.03um</td>
<td>2.51um</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>Wentworth</th>
<th>USGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Clay (0-2 um) = 12.75</td>
<td>% Clay (0-3.9 um) = 22.83</td>
<td>% Clay (0-2 um) = 12.75</td>
</tr>
<tr>
<td>% Fine Silt (2-3.9 um) = 10.07</td>
<td>% Silt (3.91-31 um) = 50.16</td>
<td>% Silt (3.91-31 um) = 50.16</td>
</tr>
<tr>
<td>d (0.1) : 1.622 um</td>
<td>d (0.5) : 14.803 um</td>
<td>d (0.5) : 14.803 um</td>
</tr>
<tr>
<td>% Coarse Silt (31 - 62.5 um) = 19.57</td>
<td>% Very Fine sand (62.5 - 125 um) = 5.92</td>
<td>% Very Fine sand (62.5 - 125 um) = 5.92</td>
</tr>
</tbody>
</table>

Inclusive SD (Sorting Coeff.) = 1.96 phi (Poorly Sorted)
Inclusive Skewness = -0.25 (Coarse Skewed)
Inclusive Kurtosis = 0.87 phi (Platykurtic)

Inclusive Mean = 6.41 phi (Silt)

Notes:

- d (0.1) : 1.622 um
- d (0.5) : 14.803 um
- d (0.9) : 55.201 um

-1  (2000.00)  -0.5  (1414.21)  0.09  100  8.0  (3.90)  8.5  (2.76)  5.45  22.85
-0.5  (1414.21)  0.0  (1000.00)  0.43  99.91  8.5  (2.76)  9.0  (1.95)  4.98  17.4
0.0  (1000.00)  0.5  (707.10)  0.48  99.48  9.0  (1.95)  9.5  (1.38)  4.37  12.43
0.5  (707.10)  1.0  (500.00)  0.33  99.44  9.5  (1.38)  10.0  (0.98)  3.52  8.06
1.0  (500.00)  1.5  (353.55)  0.15  98.67  10.0  (0.98)  10.5  (0.69)  2.49  4.54
1.5  (353.55)  2.0  (250.00)  0.01  98.53  10.5  (0.69)  11.0  (0.49)  1.44  2.05
2.0  (250.00)  2.5  (176.78)  0  98.51  11.0  (0.49)  11.5  (0.35)  0.56  0.61
2.5  (176.78)  3.0  (125.00)  0.04  98.51  11.5  (0.35)  12.0  (0.24)  0.05  0.05
3.0  (125.00)  3.5  (88.39)  1.41  98.37  12.0  (0.24)  12.5  (0.17)  0  0
3.5  (88.39)  4.0  (62.50)  4.51  97.06  12.5  (0.17)  13.0  (0.12)  0  0
4.0  (62.50)  4.5  (44.19)  8.3  92.56  13.0  (0.12)  13.5  (0.086)  0  0
4.5  (44.19)  5.0  (31.25)  11  84.25  13.5  (0.086)  14.0  (0.061)  0  0
5.0  (31.25)  5.5  (22.10)  11.48  73.25  14.0  (0.061)  14.5  (0.043)  0  0
5.5  (22.10)  6.0  (15.63)  10.31  61.77  14.5  (0.043)  15.0  (0.030)  0  0
6.0  (15.63)  6.5  (11.05)  8.72  51.46  15.0  (0.030)  15.5  (0.020)  0  0
6.5  (11.05)  7.0  (7.81)  7.43  42.74
7.0  (7.81)  7.5  (5.52)  6.54  35.31
7.5  (5.52)  8.0  (3.90)  5.92  28.77

Notes:

- Malvern Instruments Ltd.
- Malvern, UK
- Mastersizer 2000 Ver. 5.22
- Serial Number : MAL101534
- File name: DAMOS.mea
- Record Number: 248
### Grain-Size Analysis Report

**Sample:** 24-1-D - Average  
**Source:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Julie  
**Measured:** Thursday, August 06, 2009 9:26:46 AM

<table>
<thead>
<tr>
<th>Particle Name</th>
<th>Dispersant Name</th>
<th>Particle RI</th>
<th>Dispensant RI</th>
<th>Absorption</th>
<th>Obscuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>D[4,3] = 41.93μm = 4.58phi</td>
<td>Water</td>
<td>D[0,5] = 15.69μm = 5.99phi</td>
<td>0.000</td>
<td>1.330</td>
<td>0.000</td>
</tr>
<tr>
<td>D[0,05] = 1.02μm = 9.93phi</td>
<td></td>
<td>D[0,04] = 47.21μm = 4.4phi</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D[0,16] = 2.56μm = 8.61phi</td>
<td></td>
<td>D[0,95] = 80.55μm = 3.63phi</td>
<td></td>
<td></td>
<td>17.69</td>
</tr>
</tbody>
</table>

Inclusive Kurtosis = .88 phi (Platykurtic)  
Inclusive Skewness = .25 phi (Coarse Skewed)  
Inclusive Mean = 6.34 phi (Silt)

**USGS**  
% Clay (0-2 um) = 12.62  
% Fine Silt (2-3.9 um) = 9.73

<table>
<thead>
<tr>
<th>Particle Size Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

**Wentworth**  
% Fine sand (125-250 um) = .16  
% Medium sand (250-500 um) = .23  
% Coarse sand (500-1000 um) = .96  
% Very Coarse sand (1000 - 2000 um) = .86

**Notes:**

- **Obscuration:**
  - 0.020
  - 0.043
  - 0.061
  - 0.086
  - 0.120
  - 0.240
  - 0.350
  - 0.490

- **Volume (%):**
  - 0.01
  - 0.1
  - 1
  - 10
  - 100
  - 1000
  - 3000

### Particle Size Distribution

**Size Hi**  
- | Size Lo | % In | % Below |
  - | phi | um | phi | um | phi | um |
  - 1 | (2000.00) | .5 | (1414.21) | 0.3 | 100 |
  - .5 | (1414.21) | 0 | (1000.00) | 0.56 | 99.7 |
  - 0.0 | (1000.00) | 0.5 | (707.10) | 0.57 | 99.14 |
  - 0.5 | (707.10) | 1.0 | (500.00) | 0.39 | 98.57 |
  - 1.0 | (500.00) | 1.5 | (353.55) | 0.2 | 98.18 |
  - 1.5 | (353.55) | 2.0 | (250.00) | 0.02 | 97.98 |
  - 2.0 | (250.00) | 2.5 | (176.78) | 0 | 97.95 |
  - 2.5 | (176.78) | 3.0 | (125.00) | 0.16 | 97.95 |
  - 3.0 | (125.00) | 3.5 | (88.39) | 1.8 | 97.8 |
  - 3.5 | (88.39) | 4.0 | (62.50) | 5.11 | 96 |
  - 4.0 | (62.50) | 4.5 | (44.19) | 8.8 | 90.89 |
  - 4.5 | (44.19) | 5.0 | (31.25) | 11.09 | 82.09 |
  - 5.0 | (31.25) | 5.5 | (22.10) | 11.2 | 71 |
  - 5.5 | (22.10) | 6.0 | (15.63) | 9.91 | 59.79 |
  - 6.0 | (15.63) | 6.5 | (11.05) | 8.36 | 49.88 |
  - 6.5 | (11.05) | 7.0 | (7.81) | 7.14 | 41.52 |
  - 7.0 | (7.81) | 7.5 | (5.52) | 6.3 | 34.38 |
  - 7.5 | (5.52) | 8.0 | (3.90) | 5.71 | 28.09 |

**Size Lo**  
- | Size Hi | % In | % Below |
  - | phi | um | phi | um | phi | um |
  - 1 | (2000.00) | .5 | (1414.21) | 0.3 | 100 |
  - .5 | (1414.21) | 0 | (1000.00) | 0.56 | 99.7 |
  - 0.0 | (1000.00) | 0.5 | (707.10) | 0.57 | 99.14 |
  - 0.5 | (707.10) | 1.0 | (500.00) | 0.39 | 98.57 |
  - 1.0 | (500.00) | 1.5 | (353.55) | 0.2 | 98.18 |
  - 1.5 | (353.55) | 2.0 | (250.00) | 0.02 | 97.98 |
  - 2.0 | (250.00) | 2.5 | (176.78) | 0 | 97.95 |
  - 2.5 | (176.78) | 3.0 | (125.00) | 0.16 | 97.95 |
  - 3.0 | (125.00) | 3.5 | (88.39) | 1.8 | 97.8 |
  - 3.5 | (88.39) | 4.0 | (62.50) | 5.11 | 96 |
  - 4.0 | (62.50) | 4.5 | (44.19) | 8.8 | 90.89 |
  - 4.5 | (44.19) | 5.0 | (31.25) | 11.09 | 82.09 |
  - 5.0 | (31.25) | 5.5 | (22.10) | 11.2 | 71 |
  - 5.5 | (22.10) | 6.0 | (15.63) | 9.91 | 59.79 |
  - 6.0 | (15.63) | 6.5 | (11.05) | 8.36 | 49.88 |
  - 6.5 | (11.05) | 7.0 | (7.81) | 7.14 | 41.52 |
  - 7.0 | (7.81) | 7.5 | (5.52) | 6.3 | 34.38 |
  - 7.5 | (5.52) | 8.0 | (3.90) | 5.71 | 28.09 |

**File name:** DAMOS.mea  
**Serial Number:** MAL101534  
**Record Number:** 256
Grain-Size Analysis Report

Sample: 24-1-E - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Julie
Measured: Thursday, August 06, 2009 9:31:23 AM

- Notes:

<table>
<thead>
<tr>
<th>Particle Name</th>
<th>Volume (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(125.00)</td>
<td>35.43</td>
</tr>
<tr>
<td>(176.78)</td>
<td>74.23</td>
</tr>
<tr>
<td>(250.00)</td>
<td>94.16</td>
</tr>
<tr>
<td>(500.00)</td>
<td>99.96</td>
</tr>
<tr>
<td>(1000.00)</td>
<td>100</td>
</tr>
<tr>
<td>(2000.00)</td>
<td>100</td>
</tr>
</tbody>
</table>

- UsGS
  - % Clay (0-2 um) = 12.6
  - % Fine Silt (2-3.9 um) = 10.12

- Wentworth
  - % Clay (0-3.9 um) = 22.73
  - % Silt (3.91-31 um) = 51.22
  - % Coarse Silt (31 - 62.5 um) = 20.21
  - % Very Fine sand (62.5 - 125 um) = 5.8
  - % Very Coarse sand (1000 - 2000 um) = 0
  - % Coarse sand (500-1000 um) = 0
  - % Medium sand (250-500 um) = 0
  - % Fine sand (125-250 um) = 0.04

- D[4.3] = 21.48um = 5.54phi
- D[ν,0.5] = 14.61um = 6.1phi
- D[ν,0.05] = 1.03um = 8.92phi
- D[ν,0.16] = 2.54um = 8.62phi
- D[ν,0.84] = 41.92um = 4.58phi
- D[ν,0.95] = 65.45um = 3.93phi

- Inclusive SD (Sorting Coeff.) = 1.92 phi (Poorly Sorted)
- Inclusive Kurtosis = .86 phi (Platykurtic)
- Inclusive Mean = 6.43 phi (Silt)
- Inclusive Skewness = -0.26 (Coarse Skewed)

- Measured by: Julie
- Obscuration: 13.87

- Cruise:
  - 24-1-E - Average, Thursday, August 06, 2009 9:31:23 AM
Grain-Size Analysis Report

Sample: 24-1-F - Average
Source: USGS
Cruise: DAMOS

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Absorption:</th>
<th>Inclusive SD (Sorting Coeff.) = 1.91 phi (Poorly Sorted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraunhofer</td>
<td>Water</td>
<td>0.000</td>
<td>0</td>
<td>Inclusive Kurtosis = .87 phi (Platykurtic)</td>
</tr>
</tbody>
</table>

D[4,3] = 26.72µm = 5.23phi  
D[v,0.5] = 13.54µm = 6.21phi  
Kurtosis = 120.57

D[4,0.16] = 2.48µm = 8.65phi  
D[v,0.95] = 65.89µm = 3.92phi  
Skewness = 10.32

Standard Deviation = 74.33 µm = 3.75phi

Inclusive Mean = 6.5 phi (Silt)

Inclusive Skewness = -0.23 (Coarse Skewed)

Inclusive Kurtosis = .87 phi (Platykurtic)

USGS
% Clay (0-2 um) = 12.82
% Fine Silt (2-3.9 um) = 10.58
% Clay (0-3.9 um) = 23.4
% Silt (3.91-31 um) = 52.51
% Coarse Silt (31 - 62.5 um) = 18.27
% Very Fine sand (62.5 - 125 um) = 4.86
% Fine sand (125-250 um) = .02
% Medium sand (250-500 um) = .18
% Coarse sand (500-1000 um) = .64
% Very Coarse sand (1000 - 2000 um) = .13

Notes:

Notes:

--24-1-F - Average, Thursday, August 06, 2009 9:35:51 AM
### Grain-Size Analysis Report

**Sample:** 25-1-A - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Katy  
**Measured:** Monday, August 17, 2009 11:34:35 AM

#### Particle Name: Fraunhofer  
#### Dispersant Name: Water  
#### Particle RI: 0.000  
#### Absorption: 0  
#### Obscuration: 17.05

- **D[4,3]** = 37.38um = 4.74phi  
- **D[v,0.5]** = 14.78um = 6.08phi  
- **Kurtosis** = 81.05  
- **Inclusive Kurtosis** = .9 phi (Platykurtic)  
- **Skewness** = 8.5  
- **Inclusive Skewness** = -0.25 (Coarse Skewed)  
- **Inclusive Mean** = 6.42 phi (Silt)

#### USGS

- **% Clay (0-2 um) = 12.58**  
- **% Fine Silt (2-3.9 um) = 9.76**

<table>
<thead>
<tr>
<th>d (0.1)</th>
<th>1.636 um</th>
</tr>
</thead>
<tbody>
<tr>
<td>d (0.5)</td>
<td>14.777</td>
</tr>
<tr>
<td>d (0.9)</td>
<td>53.813</td>
</tr>
</tbody>
</table>

#### Wentworth

- **% Clay (0-3.9 um) = 22.34**  
- **% Silt (3.91-31 um) = 51.65**  
- **% Coarse Silt (31 - 62.5 um) = 18.91**  
- **% Very Fine sand (62.5 - 125 um) = 5.11**

- **% Fine sand (125-250 um) = 0.03**  
- **% Medium sand (250-500 um) = 0.34**  
- **% Coarse sand (500-1000 um) = 1.01**  
- **% Very Coarse sand (1000 - 2000 um) = 0.62**

#### Particle Size Distribution

- **D[4,3] = 37.38um = 4.74phi**  
- **D[v,0.5] = 14.78um = 6.08phi**  
- **Kurtosis = 81.05**  
- **Inclusive Kurtosis = .9 phi (Platykurtic)**  
- **Skewness = 8.5**  
- **Inclusive Skewness = -0.25 (Coarse Skewed)**  
- **Inclusive Mean = 6.42 phi (Silt)**

### Notes:

#### Dispersant RI:

- **0.000**  
- **1.330**

#### Absorption:

- **0**

#### Obscuration:

- **17.05**

- **D[4,3] = 37.38um = 4.74phi**  
- **D[v,0.5] = 14.78um = 6.08phi**  
- **Kurtosis = 81.05**  
- **Inclusive Kurtosis = .9 phi (Platykurtic)**  
- **Skewness = 8.5**  
- **Inclusive Skewness = -0.25 (Coarse Skewed)**  
- **Inclusive Mean = 6.42 phi (Silt)**

#### File Name:

- DAMOS.mea

#### Record Number:

- 1112
Grain-Size Analysis Report

Sample: 25-1-B - Average
Source: DAMOS
Cruise: DAMOS
DOP Name: DAMOS
Measured:
Monday, August 17, 2009 11:38:53 AM

Particle Name: Fraunhofer
Dispersant Name: Water
Particle RI: 0.000
Dispersant RI: 1.330
Absorption: 0

D[4,3] = 30.51µm = 5.03phi
D[v,0.5] = 14.87um = 6.07phi
Kurtosis = 97.61
D[v,0.05] = 1um = 9.97phi
Skewness = 9.28
D[v,0.16] = 2.46um = 8.67phi
Standard Deviation = 87.69 um = 3.51phi

Inclusive SD (Sorting Coeff.) = 1.96 phi (Poorly Sorted)
Inclusive Kurtosis = .87 phi (Platykurtic)
Inclusive Skewness = -0.26 (Coarse Skewed)
Inclusive Mean = 6.43 phi (Silt)

USGS
% Clay (0-2 µm) = 13.09
% Fine Silt (2-3.9 µm) = 9.84
% Coarse Silt (31 - 62.5 µm) = 19.85
% Very Fine sand (62.5 - 125 µm) = 5.48
% Fine sand (125-250 µm) = .02
% Medium sand (250-500 µm) = .34
% Coarse sand (500-1000 µm) = .8
% Very Coarse sand (1000 - 2000 µm) = .21

Wentworth
% Clay (0-3.9 µm) = 22.93
% Silt (3.91-31 µm) = 50.37
% Coarse Silt (31 - 62.5 µm) = 19.85
% Very Fine sand (62.5 - 125 µm) = 5.48
% Fine sand (125-250 µm) = .02
% Medium sand (250-500 µm) = .34
% Coarse sand (500-1000 µm) = .8
% Very Coarse sand (1000 - 2000 µm) = .21

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 1116
## Grain-Size Analysis Report

<table>
<thead>
<tr>
<th>Sample:</th>
<th>25-1-C - Average</th>
<th>SOP Name:</th>
<th>DAMOS</th>
<th>Measured by:</th>
<th>Katy</th>
<th>Measured:</th>
<th>Monday, August 17, 2009 11:43:39 AM</th>
</tr>
</thead>
</table>

### Particle Name:
- **Fraunhofer**

### Dispersant Name:
- **Water**

### Particle RI:
- 0.000

### Dispersant RI:
- 1.330

### Absorption:
- 0

### Obscuration:
- 19.58

### Standard Deviation = 149.17 µm = 2.74φ

### Kurtosis = 73.39

### Skewness = 8.22

### Inclusive SD (Sorting Coeff.) = 1.99 φ (Poorly Sorted)

### Inclusive Kurtosis = .87 φ (Platykurtic)

### Inclusive Mean = 6.39 φ (Silt)

### USGS

<table>
<thead>
<tr>
<th>Particle Size Distribution (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particle Size (µm)</td>
</tr>
<tr>
<td>Volume (%)</td>
</tr>
<tr>
<td>0.01</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>0</td>
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<td>0.01</td>
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</tr>
<tr>
<td>0</td>
</tr>
<tr>
<td>0.01</td>
</tr>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

### Notes:
- 25-1-C - Average, Monday, August 17, 2009 11:43:39 AM
Grain-Size Analysis Report

Sample: 25-1-D - Average  
Source:  
Cruise: DAMOS  
SOP Name: DAMOS  
Measured by: Katy  
Measured: Monday, August 17, 2009 11:50:42 AM

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Dispersant RI:</th>
<th>Absorption:</th>
<th>Obscuration:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraunhofer</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>15.36</td>
</tr>
</tbody>
</table>

D[4,3] = 36.12um = 4.79phi  
D[v,0.5] = 16.65um = 5.91phi  
Kurtosis = 99.31  
D[0.05] = 2.78um = 8.49phi  
Skewness = 9.37  
Standard Deviation = 115.32um = 3.12phi

Inclusive SD (Sorting Coeff.) = 1.96 phi (Poorly Sorted)  
Inclusive Kurtosis = .91 phi (Mesokurtic)  
Inclusive Skewness = -0.28 (Coarse Skewed)  
Inclusive Mean = 6.27 phi (Silt)

USGS
% Clay (0-2 um) = 11.77  
% Fine Silt (2-3.9 um) = 8.96

Wentworth
% Clay (0-3.9 um) = 20.73  
% Fine sand (125-250 um) = .09

% Silt (3.91-31 um) = 49.3  
% Medium sand (250-500 um) = .24

% Coarse silt (31-62.5 um) = 21.35  
% Coarse sand (500-1000 um) = .75

% Very Fine sand (62.5-125 um) = 7.03  
% Very coarse sand (1000-2000 um) = .51

---

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 1124
Grain-Size Analysis Report

Sample: 25-1-E - Average  
Source: DAMOS  
Cruise: DAMOS

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Dispersant RI:</th>
<th>Absorption:</th>
<th>Inclusive SD (Sorting Coeff.)</th>
<th>Kurtosis</th>
<th>Skewness</th>
<th>Inclusive Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraunhofer</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>2.04 phi (Very Poorly Sorted)</td>
<td>74.12</td>
<td>8.23</td>
<td>6.23 phi</td>
</tr>
</tbody>
</table>

% Coarse Silt (31 - 62.5 um) = 21.9
% Very Fine sand (62.5 - 125 um) = 8.53
% Fine sand (125-250 um) = .3
% Medium sand (250-500 um) = .12
% Coarse sand (500-1000 um) = .85
% Very Coarse sand (1000 - 2000 um) = .88

D[4,3] = 43.22 um = 4.53 phi
D[0.5] = 17.53 um = 5.83 phi
D[0.25] = 64.36 um = 2.78 phi

D[4,3] = 1753 um = 4.29 phi
D[0.25] = 1414 um = 4.49 phi
D[0.16] = 85.18 um = 3.55 phi

Kurtosis = 74.12
Skewness = 8.23
Inclusive Kurtosis = .88 phi (Platykurtic)
Inclusive Mean = 6.23 phi (Silt)

Inclusive SD (Sorting Coeff.) = 2.04 phi (Very Poorly Sorted)
Inclusive Skewness = -0.28 (Coarse Skewed)
Inclusive Mean = 6.23 phi (Silt)

USGS
% Clay (0-2 um) = 12.38
% Fine Silt (2-3.9 um) = 9.17
% Silt (3.91-31 um) = 45.87
% Clay (0-3.9 um) = 21.55
% Silt (3.91-31 um) = 45.87
% Coarse Silt (31 - 62.5 um) = 21.9
% Very Fine sand (62.5 - 125 um) = 8.53
% Fine sand (125-250 um) = .3
% Medium sand (250-500 um) = .12
% Coarse sand (500-1000 um) = .85
% Very Coarse sand (1000 - 2000 um) = .88

Notes:

- d (0.1) : 1.652 µm
- d (0.5) : 17.532 µm
- d (0.9) : 64.360 µm

- d (0.9) : 64.360
- d (0.5) : 17.532
- d (0.1) : 1.652

---

Malvern Instruments Ltd.  
Malvern, UK  
Mastersizer 2000 Ver. 5.22  
Serial Number : MAL101534  
File name: DAMOS.mea  
Record Number: 1128
Grain-Size Analysis Report

Sample: 25-1-F - Average  
Source: USGS  
Cruise: DAMOS  
SOP Name: DAMOS  
Measured by: Katy  
Measured: Monday, August 17, 2009 12:00:18 PM

Particle Name: Fraunhofer  
Dispersant Name: Water  
Particle RI: 0.000  
Dispersant RI: 1.330  
Absorption: 0  
Inclusive SD (Sorting Coeff.) = 2 phi (Poorly Sorted)  
Inclusive Kurtosis = .88 phi (Platykurtic)  
Inclusive Mean = 6.26 phi (Silt)  

D[4,3] = 43.3um = 4.53phi  
D[3,2] = 100um = 2.07phi  
D[2,1] = 21.54um = 2.72phi  

D[v,0.5] = 17.18um = 5.86phi  
D[v,0.6] = 48.69um = 4.36phi  
D[v,0.7] = 79.67um = 3.65phi  

USGS  
% Clay (0-2 um) = 12.29  
% Fine Silt (2-3.9 um) = 9.22  
% Medium Sand (250-500 um) = .19  
% Very Fine Sand (62.5-125 um) = 7.35  
% Very Coarse Sand (1000-2000 um) = .97

Wentworth  
% Clay (0-3.9 um) = 21.52  
% Silt (3.91-31 um) = 47.21  
% Fine Sand (125-250 um) = .05  
% Coarse Silt (31-62.5 um) = 21.91  
% Very Fine Sand (62.5-125 um) = 7.35

Notes:

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Notes:
Grain-Size Analysis Report

Sample: 25-1-T1 - Average
Source: DAMOS
Cruise: DAMOS

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Dispersion RI:</th>
<th>Absorption:</th>
<th>Obscuration:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraunhofer</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>19.91</td>
</tr>
</tbody>
</table>

\[D(4,3) = 50.56 \mu m = 4.31\phi\]
\[D_{[v,0.5]} = 11.2 \mu m = 6.48\phi\]
\[S_{[v,0.05]} = 10.06 \mu m \quad \text{Kurtosis} = 39.51\]
\[S_{[v,0.16]} = 8.91\phi \quad \text{Skewness} = 6.12\]
\[S_{[v,0.26]} = 1.38\phi \quad \text{D[4,3]} = 50.56 \mu m = 4.31\phi\]

\[S_{[v,0.05]} = 10.06 \mu m \quad \text{D[4,3]} = 50.56 \mu m = 4.31\phi\]
\[S_{[v,0.16]} = 8.91\phi \quad \text{D[4,3]} = 50.56 \mu m = 4.31\phi\]

Inclusive SD (Sorting Coeff.) = 2.07 phi (Very Poorly Sorted)  Inclusive Skewness = -0.11 (Coarse Skewed)  Inclusive Kurtosis = .84 phi (Platykurtic)

USGS
- % Clay (0-2 um) = 15.31
- % Fine Silt (2-3.9 um) = 12.12

Wentworth
- % Clay (0-3.9 um) = 27.43
- % Silt (3.91-31 um) = 48.24
- % Coarse Silt (31-62.5 um) = 16.06
- % Very Fine sand (62.5-125 um) = 4.98
- % Fine sand (125-250 um) = .03
- % Medium sand (250-500 um) = .18
- % Coarse sand (500-1000 um) = 1.6
- % Very Coarse sand (1000 - 2000 um) = 1.48

Notes:
- Inclusive Mean = 6.65 phi (Silt)
## Grain-Size Analysis Report

**Sample:** 25-1-T2 - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Katy  
**Measured:** Monday, August 17, 2009 12:14:35 PM

### Particle Size Distribution

<table>
<thead>
<tr>
<th>Particle Name</th>
<th>Dispersant Name</th>
<th>Particle RI</th>
<th>Dispersant RI</th>
<th>Absorption</th>
<th>Obscuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse Silt (31 - 62.5 um)</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>21.51</td>
</tr>
</tbody>
</table>

### Inclusive SD (Sorting Coeff.) = 2.03 phi (Very Poorly Sorted)

- **Inclusive Kurtosis** = .87 phi (Platykurtic)
- **Inclusive Skewness** = -0.23 (Coarse Skewed)
- **Inclusive Mean** = 6.39 phi (Silt)

### Particle Size Distribution

![Particle Size Distribution Graph]

### Notes:

- **Malvern Instruments Ltd.**
- **Serial Number:** MAL101534
- **File name:** DAMOS.mea
- **Record Number:** 1140

---

### Particle Name: Fraunhofer

| Particle Size Distribution Table |
|-------------------|-------------------|-------------------|-------------------|-------------------|
| Size Hi (um) | Size Lo (um) | % In | % Below | Size Hi (um) | Size Lo (um) | % In | % Below |
| -1 (2000.00) | -0.5 (1414.21) | 0.27 | 100 | 8.0 (3.90) | 8.5 (2.76) | 5.39 | 23.32 |
| -0.5 (1414.21) | 0.0 (1000.00) | 0.53 | 99.73 | 8.5 (2.76) | 9.0 (1.95) | 5.01 | 17.93 |
| 0.0 (1000.00) | 0.5 (707.10) | 0.6 | 99.2 | 9.0 (1.95) | 9.5 (1.38) | 4.48 | 12.93 |
| 0.5 (707.10) | 1.0 (500.00) | 0.5 | 98.6 | 9.5 (1.38) | 10.0 (0.98) | 3.65 | 8.45 |
| 1.0 (500.00) | 1.5 (353.55) | 0.32 | 98.1 | 10.0 (0.98) | 10.5 (0.69) | 2.61 | 4.79 |
| 1.5 (353.55) | 2.0 (250.00) | 0.04 | 97.79 | 10.5 (0.69) | 11.0 (0.49) | 1.52 | 2.18 |
| 2.0 (250.00) | 2.5 (176.78) | 0 | 97.75 | 11.0 (0.49) | 11.5 (0.35) | 0.6 | 0.65 |
| 2.5 (176.78) | 3.0 (125.00) | 0.17 | 97.75 | 11.5 (0.35) | 12.0 (0.24) | 0.05 | 0.05 |
| 3.0 (125.00) | 3.5 (88.39) | 1.79 | 97.58 | 12.0 (0.24) | 12.5 (0.17) | 0 | 0 |
| 3.5 (88.39) | 4.0 (62.50) | 4.91 | 95.79 | 12.5 (0.17) | 13.0 (0.12) | 0 | 0 |
| 4.0 (62.50) | 4.5 (44.19) | 8.39 | 90.88 | 13.0 (0.12) | 13.5 (0.086) | 0 | 0 |
| 4.5 (44.19) | 5.0 (31.25) | 10.6 | 82.49 | 13.5 (0.086) | 14.0 (0.061) | 0 | 0 |
| 5.0 (31.25) | 5.5 (22.10) | 10.82 | 71.89 | 14.0 (0.061) | 14.5 (0.043) | 0 | 0 |
| 5.5 (22.10) | 6.0 (15.63) | 9.75 | 61.07 | 14.5 (0.043) | 15.0 (0.030) | 0 | 0 |
| 6.0 (15.63) | 6.5 (11.05) | 8.42 | 51.32 | 15.0 (0.030) | 15.5 (0.020) | 0 | 0 |
| 6.5 (11.05) | 7.0 (7.81) | 7.31 | 42.9 | 15.5 (0.020) | 0 | 0 |
| 7.0 (7.81) | 7.5 (5.52) | 6.45 | 35.59 | 15.5 (0.020) | 0 | 0 |
| 7.5 (5.52) | 8.0 (3.90) | 5.82 | 29.14 | 15.5 (0.020) | 0 | 0 |
Grain-Size Analysis Report

Sample: 26-1-A - Average  
Source: USGS  
Cruse: DAMOS  
SOP Name: DAMOS  
Measured by: Katy  
Measured: Friday, August 14, 2009 12:37:16 PM

Particle Name: Fraunhofer  
Dispersant Name: Water  
Particle RI: 0.000  
Dispersant RI: 1.330  
Absorption: 0  
Inclusive Kurtosis = 12.6 phi (Leptokurtic)

D[4,3] = 93.45um = 3.42phi  
D[4,0.5] = 18.94um = 5.72phi  
Kurtosis = 17.95

D[4,0.16] = 3.06um = 8.35phi  
D[4,0.05] = 1.14um = 9.78phi  
Skewness = 4.22

D[4,0.0] = 0.3um = 9.78phi  
Standard Deviation = 268.4 um = 1.9phi

Inclusive SD (Sorting Coeff.) = 2.52 phi (Very Poorly Sorted)  
Inclusive Skewness = -0.03 (Near Symmetrical)  
Inclusive Mean = 6 phi (Silt)

USGS  
% Clay (0-2 um) = 10.67  
% Fine Silt (2-3.9 um) = 8.74

Wentworth  
% Clay (0-3.9 um) = 19.41  
% Silt (3.91-31 um) = 44.35

% Coarse Silt (31 - 62.5 um) = 18.97  
% Very Fine sand (62.5 - 125 um) = 8.9

% Fine sand (125-250 um) = 1.47  
% Medium sand (250-500 um) = .85

% Coarse sand (500-1000 um) = 2.79  
% Very Coarse sand (1000 - 2000 um) = 3.24

Notes:
Grain-Size Analysis Report

Sample: 26-1-B - Average
Source: USGS
Cruise: DAMOS

% Coarse Silt (31 - 62.5 um) = 19.65
% Very Fine sand (62.5 - 125 um) = 7.16
% Fine Silt (2-3.9 um) = 9.65
% Clay (0-3.9 um) = 21.88
% Clay (0-2 um) = 12.24
% Fine Sand (125-250 um) = 0.45
% Very Fine sand (62.5 - 125 um) = 7.16
% Clay (0-2 um) = 12.24
% Silt (3.91-31 um) = 49.36
% Coarse Silt (31 - 62.5 um) = 19.65

Inclusive SD (Sorting Coeff.) = 1.99 phi (Poorly Sorted)
Inclusive Skewness = -0.23 (Coarse Skewed)
Inclusive Kurtosis = .89 phi (Platykurtic)

Standard Deviation = 110.58 um = 3.18phi
Inclusive Mean = 6.33 phi (Silt)

Obscuration : 17.68

Notes:

---
26-1-B - Average, Friday, August 14, 2009 12:42:19 PM
Grain-Size Analysis Report

Sample: 26-1-C - Average
Source: DAMOS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water

<table>
<thead>
<tr>
<th>Particle Size Distribution</th>
<th>Volume (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01</td>
<td>0.1</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Particle Size (µm)</th>
<th>Volume (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01</td>
<td>0.1</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Notes:

- Size Hi (phi, um) = d (0.1) : 1.681 µm, d (0.5) : 15.421 µm
- Size Lo (phi, um) = d (0.9) : 58.804 µm
- Inclusive Kurtosis = 0.88 phi (Platykurtic)
- Inclusive Skewness = 0.24 (Coarse Skewed)
- Inclusive Mean = 6.34 phi (Silt)
- USGS
  - % Clay (0-2 um) = 12.2
  - % Fine Silt (2-3.9 um) = 9.73

- Wentworth
  - % Clay (0-3.9 um) = 21.93
  - % Silt (3.91-31 um) = 49.44
  - % Coarse Silt (31 - 62.5 um) = 19.91
  - % Very Fine sand (62.5 - 125 um) = 6.87

- Obscuration: 18.11
- Kurtosis = 95.95
- Skewness = 9.17
- Inclusive SD (Sorting Coeff.) = 1.98 phi (Poorly Sorted)

- Measured:
  - Friday, August 14, 2009 12:47:16 PM

- Malvern Instruments Ltd.
  - Mastersizer 2000 Ver. 5.22
  - Serial Number: MAL101534
  - File name: DAMOS.mea
  - Record Number: 1000
### Grain-Size Analysis Report

**Sample:** 26-1-D - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**Measured by:** Katy  
**Measured:** Friday, August 14, 2009 12:55:37 PM

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle Size Distribution</th>
<th>Inclusive SD (Sorting Coeff.) = 2 phi (Very Poorly Sorted)</th>
<th>Inclusive Kurtosis = .86 phi (Platykurtic)</th>
<th>Inclusive Skewness = -0.23 (Coarse Skewed)</th>
<th>Inclusive Mean = 6.38 phi (Silt)</th>
</tr>
</thead>
</table>

#### Particle Size Distribution

![Particle Size Distribution Graph](image-url)

- **D[4,3] = 30.37µm = 5.04phi**  
- **D[v,0.5] = 14.9µm = 6.07phi**  
- **D[v,0.16] = 2.5µm = 8.64phi**  
- **D[v,0.05] = 0.35µm = 9.98phi**  
- **D[v,0.01] = 0.12µm = 10.05phi**

**Notes:**

- **Obscuration:** 16.28
- **Skewness:** 11.97
- **Kurtosis:** 119.74
- **D[v,0.05] = 1.02um = 0.33phi**  
- **D[v,0.16] = 2.5um = 8.64phi**  
- **D[v,0.5] = 14.9um = 6.07phi**  
- **D[v,0.01] = 0.12um = 10.05phi**

**Experimental Conditions:**

- **Dispersant Name:** Fraunhofer
- **Dispersant RI:** 0.000
- **Absorption:** 0
- **Obscuration:** 16.28

---

Malvern, UK  
Malvern Instruments Ltd.  
Mastersizer 2000 Ver. 5.22  
Serial Number: MAL101534  
File name: DAMOS.mea  
Record Number: 1004
Grain-Size Analysis Report

Sample: 26-1-E - Average
Source: DAMOS
Cruise: DAMOS

<table>
<thead>
<tr>
<th>Particle Name</th>
<th>Dispersant Name</th>
<th>Particle RI</th>
<th>Dispensant RI</th>
<th>Absorption</th>
<th>Obscuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraunhofer</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>16.35</td>
</tr>
</tbody>
</table>

D[4,3] = 28.2um = 5.15phi
D[4,0.05] = 1.02um = 9.93phi
D[4,0.16] = 2.5um = 8.64phi
Kurtosis = 109.41
Skewness = 9.53

Inclusive Kurtosis = .86 phi (Platykurtic)
Inclusive SD (Sorting Coeff.) = 1.99 phi (Poorly Sorted)
Inclusive Mean = 6.39 phi (Silt)

USGS
% Clay (0-2 um) = 12.81
% Fine Silt (2-3.9 um) = 10.17
% Medium Sand (250-500 um) = .3
% Coarse Silt (31-62.5 um) = 19.52
% Very Fine Sand (62.5 - 125 um) = 7.29
% Very Coarse Sand (1000 - 2000 um) = .04

Wentworth
% Clay (0-3.9 um) = 22.98
% Silt (3.91-31 um) = 49.04
% Medium Sand (250-500 um) = .3
% Coarse sand (500-1000 um) = .59
% Very Coarse Sand (1000 - 2000 um) = .04

Notes:
**Grain-Size Analysis Report**

**Sample:** 26-1-F - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Katy  
**Measured:** Friday, August 14, 2009 1:04:57 PM

<table>
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<tr>
<th>Particle Name:</th>
<th>Fraunhofer</th>
<th>Particle RI:</th>
<th>Dispersant Name:</th>
<th>Water</th>
<th>Dispersant RI:</th>
<th>Absorption:</th>
<th>Obscuration:</th>
<th>Inclusive Kurtosis = .98 phi (Poorly Sorted)</th>
<th>Inclusive Skewness = -0.26 (Coarse Skewed)</th>
<th>Inclusive Mean = 6.31 phi (Silt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D[4,3] = 35.05um = 4.83phi</td>
<td>D[v,0.5] = 15.95um = 5.97phi</td>
<td>Kurtosis = 109.47</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D[v,0.05] = 1.05um = 9.89phi</td>
<td>D[v,0.84] = 46.96um = 4.41phi</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D[v,0.16] = 2.65um = 8.56phi</td>
<td>D[v,0.95] = 78.57um = 3.67phi</td>
<td>Skewness = 9.69</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Inclusive SD (Sorting Coeff.) = 1.98 phi (Poorly Sorted)**  
**Inclusive Kurtosis = .89 phi (Platykurtic)**  
**Inclusive Mean = 6.31 phi (Silt)**

**USGS**  
- % Clay (0-2 um) = 12.2  
- % Fine Silt (2-3.9 um) = 9.53

**Wentworth**  
- % Clay (0-3.9 um) = 21.73  
- % Silt (3.91-31 um) = 48.98  
- % Coarse Silt (31 - 62.5 um) = 20.42  
- % Very Fine sand (62.5 - 125 um) = 7.13  
- % Fine sand (125-250 um) = .22  
- % Medium sand (250-500 um) = .36  
- % Coarse sand (500-1000 um) = .76  
- % Very Coarse sand (1000 - 2000 um) = .41

---

**Notes:**

Malvern Instruments Ltd.  
Malvern, UK  
Mastersizer 2000 Ver. 5.22  
Serial Number : MAL101534  
File name: DAMOS.mea  
Record Number: 1012
### Particle Size Distribution

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Fraunhofer</th>
<th>Particle RI:</th>
<th>Absorption:</th>
<th>Obscuration:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispersant Name:</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>18.44</td>
</tr>
</tbody>
</table>

#### Size Hi

- **D[4,3]** = 49.35um = 4.34phi
- **D[v,0.5]** = 14.04um = 6.15phi
- **D[v,0.16]** = 2.52um = 8.64phi

#### Size Lo

- **D[4,3]** = 49.35um = 4.34phi
- **D[v,0.5]** = 14.04um = 6.15phi
- **D[v,0.16]** = 2.52um = 8.64phi

<table>
<thead>
<tr>
<th>Volume (%)</th>
<th>0.01</th>
<th>0.1</th>
<th>1</th>
<th>10</th>
<th>100</th>
<th>1000</th>
<th>3000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particle Size Distribution</td>
<td>100</td>
<td>99.61</td>
<td>98.9</td>
<td>98.18</td>
<td>97.24</td>
<td>97.63</td>
<td>97.98</td>
</tr>
</tbody>
</table>

#### Inclusive SD (Sorting Coeff.) = 2.09 phi (Very Poorly Sorted)

#### Inclusive Skewness = -0.14 (Coarse Skewed)

#### Inclusive Kurtosis = .92 phi (Mesokurtic)

#### USGS

- **% Clay (0-2 um)** = 12.66
- **% Fine Silt (2-3.9 um)** = 10.55

#### Wentworth

- **% Clay (0-3.9 um)** = 23.21
- **% Silt (3.91-31 um)** = 48.72
- **% Coarse Silt (31 - 62.5 um)** = 16.81
- **% Very Fine sand (62.5 - 125 um)** = 6.99
- **% Fine sand (125-250 um)** = 1.27
- **% Medium sand (250-500 um)** = 0.68
- **% Coarse sand (500-1000 um)** = 1.27
- **% Very Coarse sand (1000 - 2000 um)** = 1.1

#### Notes:

- **d (0.1) : 1.636 um**
- **d (0.9) : 67.458 um**
- **d (0.5) : 14.038 um**

---

### Grain-Size Analysis Report

<table>
<thead>
<tr>
<th>Sample: 27-1-A - Average</th>
<th>SOP Name: DAMOS</th>
<th>Measured by: Administrator</th>
<th>Measured: Wednesday, August 12, 2009 3:02:21 PM</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Particle Name</th>
<th>Dispersant Name</th>
<th>Particle RI</th>
<th>Absorption</th>
<th>Obscuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse Silt</td>
<td>31 - 62.5 um</td>
<td>16.81</td>
<td>1.330</td>
<td>18.44</td>
</tr>
<tr>
<td>Fine Silt</td>
<td>2-3.9 um</td>
<td>48.72</td>
<td>8.64phi</td>
<td>2.09phi</td>
</tr>
<tr>
<td>Clay</td>
<td>0-2 um</td>
<td>12.66</td>
<td>6.15phi</td>
<td>2.09phi</td>
</tr>
<tr>
<td>Medium sand</td>
<td>250-500 um</td>
<td>0.68</td>
<td>8.64phi</td>
<td>2.09phi</td>
</tr>
<tr>
<td>Fine sand</td>
<td>125-250 um</td>
<td>1.27</td>
<td>6.15phi</td>
<td>2.09phi</td>
</tr>
<tr>
<td>Medium sand</td>
<td>250-500 um</td>
<td>0.68</td>
<td>8.64phi</td>
<td>2.09phi</td>
</tr>
<tr>
<td>Coarse sand</td>
<td>500-1000 um</td>
<td>1.27</td>
<td>6.15phi</td>
<td>2.09phi</td>
</tr>
<tr>
<td>Very Coarse sand</td>
<td>1000 - 2000 um</td>
<td>1.1</td>
<td>6.15phi</td>
<td>2.09phi</td>
</tr>
</tbody>
</table>

#### Summary

- **D[4,3]** = 49.35um = 4.34phi
- **D[v,0.5]** = 14.04um = 6.15phi
- **D[v,0.16]** = 2.52um = 8.64phi

#### Key Parameters

- **Skewness** = 6.87
- **Kurtosis** = 52.14
- **Standard Deviation** = 166.47 um = 2.59phi
- **Inclusive Mean** = 6.38 phi (Silt)

---

**Notes:**

- **Grain-Size Analysis Report**
- **Grain-Size Analysis Report**
- **Grain-Size Analysis Report**
- **Grain-Size Analysis Report”**
- **Grain-Size Analysis Report”**
- **Grain-Size Analysis Report”**
- **Grain-Size Analysis Report”**
- **Grain-Size Analysis Report”**
- **Grain-Size Analysis Report”**

---

**Malvern Instruments Ltd.**

**Mastersizer 2000 Ver. 5.22**

**Serial Number : MAL101534**

**Record Number: 720**

**File name: DAMOS.mea**
Grain-Size Analysis Report

Sample: 27-1-B - Average
Source: USGS
Cruise: DAMOS

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Fraunhofer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispersant Name:</td>
<td>Water</td>
</tr>
<tr>
<td>Particle Size Distribution</td>
<td></td>
</tr>
<tr>
<td>D[4,3] = 25.53um = 5.29phi</td>
<td>D[v,0.5] = 16.16um = 5.95phi</td>
</tr>
<tr>
<td>D[v,0.05] = 1.09um = 8.84phi</td>
<td>D[v,0.95] = 77.16um = 3.7phi</td>
</tr>
<tr>
<td>D[v,0.16] = 2.82um = 8.47phi</td>
<td></td>
</tr>
</tbody>
</table>

| % Coarse Silt (31 - 62.5 um) | 20.51 |
| % Fine Silt (2-3.9 um) | 9.35 |
| % Silt (3.91-31 um) | 49.87 |
| % Coarse Silt (31 - 62.5 um) | 20.51 |
| % Very Fine sand (62.5 - 125 um) | 8 |
| % Clay (0-2 um) | 11.43 |
| % Medium sand (250-500 um) | .17 |
| % Very Coarse sand (1000 - 2000 um) | 0 |
| % Coarse sand (500-1000 um) | .11 |
| % Fine sand (125-250 um) | .55 |
| % Clay (0-3.9 um) | 20.78 |
| % Silt (3.91-31 um) | 49.87 |

Inclusive SD (Sorting Coeff.) = 1.95 phi (Poorly Sorted)  
Inclusive Skewness = -0.25 (Coarse Skewed)  
Inclusive Kurtosis = .9 phi (Platykurtic)

Inclusive SD (Sorting Coeff.) = 1.95 phi (Poorly Sorted)  
Inclusive Skewness = -0.25 (Coarse Skewed)  
Inclusive Kurtosis = .9 phi (Platykurtic)

USGS

| % Clay (0-2 um) | 11.43 |
| % Fine Silt (2-3.9 um) | 9.35 |
| % Silt (3.91-31 um) | 49.87 |
| % Coarse Silt (31 - 62.5 um) | 20.51 |
| % Very Fine sand (62.5 - 125 um) | 8 |
| % Clay (0-3.9 um) | 20.78 |
| % Silt (3.91-31 um) | 49.87 |

Wentworth

| % Fine sand (125-250 um) | .55 |
| % Medium sand (250-500 um) | .17 |
| % Coarse sand (500-1000 um) | .11 |
| % Very Coarse sand (1000 - 2000 um) | 0 |

Inclusive Mean = 6.28 phi (Silt)  
Inclusive Kurtosis = .9 phi (Platykurtic)

Notes:

---

27-1-B - Average, Wednesday, August 12, 2009 3:09:39 PM
% Clay (0-2 um) = 12.22
% Fine Silt (2-3.9 um) = 9.72
% Silt (3.91-31 um) = 48.21
% Coarse Silt (31 - 62.5 um) = 19.45
% Very Fine sand (62.5 - 125 um) = 7.36
% Medium sand (250-500 um) = .71
% Fine sand (125-250 um) = .46
% Coarse sand (500-1000 um) = .56
% Very Coarse sand (1000 - 2000 um) = .56

Inclusive SD (Sorting Coeff.) = 2.03 phi (Very Poorly Sorted)
Inclusive Skewness = -0.22 (Coarse Skewed)
Inclusive Mean = 6.3 phi (Silt)

D[4,3] = 42.23um = 4.57phi
D[v,0.5] = 15.8um = 5.98phi
Kurtosis = 67.8

D[0.05] = 2.64um = 8.57phi
D[v,0.95] = 90.23um = 3.47phi
Skewness = 7.64
Standard Deviation = 131.48 um = 2.93phi

Inclusive Kurtosis = .9 phi (Platykurtic)
Inclusive Mean = 6.3 phi (Silt)

Dispersant Name: Fraunhofer
Dispersant RI: 0.000
Absorption: 0
Occulsion : 16.96

Notes:

Grain-Size Analysis Report

Sample: 27-1-E - Average
Source: DAMOS
Cruise: Administrator
SOP Name: DAMOS
Measured by: Wednesday, August 12, 2009
3:25:13 PM

---

27-1-E - Average, Wednesday, August 12, 2009 3:25:13 PM

---

Notes:
Sample: 27-1-F - Average
Source: DAMOS
Cruise: DAMOS

**Grain-Size Analysis Report**

**SOP Name:** DAMOS  
**Measured by:** Administrator  
**Measured:** Wednesday, August 12, 2009 3:29:57 PM

**Particle Name:** Fraunhofer  
**Dispersant Name:** Water  
**Particle RI:** 0.000  
**Dispersant RI:** 1.330  
**Absorption:** 0  
**Obscuration:** 14.40

\[ D[4,3] = 32.22 \text{um} = 4.96phi \]
\[ D[v,0.5] = 16.08 \text{um} = 5.96phi \]
\[ D[v,0.16] = 2.67 \text{um} = 8.55phi \]

**Inclusive SD (Sorting Coeff.) = 1.99 phi (Poorly Sorted)**  
**Inclusive Kurtosis = .88 phi (Platykurtic)**  
**Inclusive Mean = 6.3 phi (Silt)**

**USGS**
- % Clay (0-2 um) = 12.06
- % Fine Silt (2-3.9 um) = 9.65

**Wentworth**
- % Clay (0-3.9 um) = 21.7
- % Silt (3.91-31 um) = 48.4
- % Coarse Silt (31 - 62.5 um) = 20.57
- % Very Fine sand (62.5 - 125 um) = 7.81
- % Fine sand (125-250 um) = .31
- % Medium sand (250-500 um) = .33
- % Coarse sand (500-1000 um) = .67
- % Very Coarse sand (1000 - 2000 um) = .21

**Notes:**
- \( d (0.1) : 1.698 \text{ um} \)
- \( d (0.5) : 16.079 \text{ um} \)
- \( d (0.9) : 60.631 \text{ um} \)
Grain-Size Analysis Report

**Sample:** 28-1-A - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Katy  
**Measured:** Friday, August 14, 2009 3:51:52 PM

<table>
<thead>
<tr>
<th>Particle Name</th>
<th>Dispersant Name</th>
<th>Particle RI</th>
<th>Dispersant RI</th>
<th>Absorption</th>
<th>Inclusive Mean</th>
<th>Obscuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse Silt (31 - 62.5 um)</td>
<td>0.000</td>
<td>1.330</td>
<td>-</td>
<td>0</td>
<td>6.47 phi (Silt)</td>
<td>20.68</td>
</tr>
<tr>
<td>Very Fine sand (62.5 - 125 um)</td>
<td>21.56um = 5.54phi</td>
<td>14.09um = 6.15phi</td>
<td>14.09um = 6.15phi</td>
<td>22.28um = 5.49phi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Coarse sand (1000 - 2000 um)</td>
<td>21.56um = 5.54phi</td>
<td>14.09um = 6.15phi</td>
<td>14.09um = 6.15phi</td>
<td>22.28um = 5.49phi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fine Silt (2-3.9 um)</td>
<td>0.01</td>
<td>0.1</td>
<td>1</td>
<td>100</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Clay (0-2 um)</td>
<td>0.000</td>
<td>1.330</td>
<td>-</td>
<td>0</td>
<td>6.47 phi (Silt)</td>
<td>20.68</td>
</tr>
</tbody>
</table>

**USGS**
- % Clay (0-2 um) = 13.25
- % Fine Silt (2-3.9 um) = 10.2
- % Clay (0-3.9 um) = 23.45
- % Silt (3.91-31 um) = 50.75
- % Coarse Silt (31 - 62.5 um) = 19.43
- % Very Fine sand (62.5 - 125 um) = 6.27

**Wentworth**
- % Clay (0-250 um) = .09
- % Medium sand (250-500 um) = 0
- % Coarse sand (500-1000 um) = 0
- % Very Coarse sand (1000 - 2000 um) = 0

---

**Notes:**

- Malvern Instruments Ltd.  
- Mastersizer 2000 Ver. 5.22  
- Serial Number : MAL101534  
- File name: DAMOS.mea  
- Record Number: 1016
Grain-Size Analysis Report

Sample: 28-1-B - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Katy

Date: Friday, August 14, 2009 3:56:23 PM

Particle Name: Fraunhofer
Dispersant Name: Water
Particle Size Distribution

<table>
<thead>
<tr>
<th>Size Hi phi</th>
<th>Size Hi um</th>
<th>Size Lo phi</th>
<th>Size Lo um</th>
<th>% In</th>
<th>% Below</th>
<th>Size Hi phi</th>
<th>Size Hi um</th>
<th>Size Lo phi</th>
<th>Size Lo um</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1</td>
<td>2000.00</td>
<td>-0.5</td>
<td>1414.21</td>
<td>0.21</td>
<td>100</td>
<td>8.0</td>
<td>3.90</td>
<td>8.5</td>
<td>2.76</td>
<td>5.26</td>
<td>23.07</td>
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<td>-0.5</td>
<td>1414.21</td>
<td>0.0</td>
<td>1000.00</td>
<td>0.4</td>
<td>99.79</td>
<td>8.5</td>
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<td>4.92</td>
<td>17.8</td>
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<tr>
<td>0.0</td>
<td>1000.00</td>
<td>0.5</td>
<td>707.10</td>
<td>0.41</td>
<td>99.39</td>
<td>9.0</td>
<td>1.95</td>
<td>9.5</td>
<td>1.38</td>
<td>4.42</td>
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<td>1.0</td>
<td>500.00</td>
<td>0.28</td>
<td>98.97</td>
<td>9.5</td>
<td>1.38</td>
<td>10.0</td>
<td>0.98</td>
<td>3.64</td>
<td>8.47</td>
</tr>
<tr>
<td>1.0</td>
<td>500.00</td>
<td>1.5</td>
<td>353.55</td>
<td>0.12</td>
<td>98.69</td>
<td>10.0</td>
<td>0.98</td>
<td>10.5</td>
<td>0.69</td>
<td>2.62</td>
<td>4.83</td>
</tr>
<tr>
<td>1.5</td>
<td>353.55</td>
<td>2.0</td>
<td>250.00</td>
<td>0</td>
<td>98.58</td>
<td>10.5</td>
<td>0.69</td>
<td>11.0</td>
<td>0.49</td>
<td>1.54</td>
<td>2.21</td>
</tr>
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Notes:

- Clay (0-2 um): 13.21%
- Silt (2.39-31 um): 49.7%
- Fine Silt (3.91-31 um): 9.83%
- Coarse Silt (31-62.5 um): 20.05%
- Very Fine sand (62.5-125 um): 5.76%
- Medium sand (250-500 um): 0.12%
- Fine sand (125-250 um): 0.03%
- Coarse sand (500-1000 um): 0.69%
- Very Coarse sand (1000-2000 um): 0.61%

Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
Record Number: 1020

File name: DAMOS.mea
## Grain-Size Analysis Report

**Sample:** 28-1-C - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Katy  
**Measured:** Friday, August 14, 2009 4:00:47 PM

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<th>Obscuration: 20.60</th>
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### Size Distribution

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<th>Inclusive Mean</th>
<th>Inclusive SD</th>
<th>Kurtosis</th>
<th>Skewness</th>
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</table>

**Notes:**

- **Coarse Silt (31 - 62.5 um):** 19.49%
- **Very Fine sand (62.5 - 125 um):** 5.71%
- **Sand (250 - 500 um):** 0.13%
- **Fine sand (125 - 250 um):** 0.03%
- **Silt (3.91 - 31 um):** 49.63%
- **Clay (0 - 3.9 um):** 13.29%
- **Very Coarse sand (1000 - 2000 um):** 0.89%
- **Medium sand (250 - 500 um):** 0.74%

**Obscuration:** 20.60

**Dispersant RI:** Fraunhofer

**Dispersant Name:** Water

**Source:** USGS

**Wentworth Classification:**
- **% Clay (0-2 um):** 13.29%
- **% Fine Silt (2-3.9 um):** 9.89%
- **% Silt (3.91-31 um):** 49.63%
- **% Coarse Silt (31 - 62.5 um):** 19.49%
- **% Very Fine sand (62.5 - 125 um):** 5.71%
- **% Medium sand (250-500 um):** 0.13%
- **% Coarse sand (500-1000 um):** 0.94%
- **% Very Coarse sand (1000 - 2000 um):** 0.89%

**Inclusive SD (Sorting Coeff.) = 1.99 phi (Poorly Sorted)**

**Inclusive Kurtosis = .87 phi (Platykurtic)**

**Volume (um): 28-1-C - Average, Friday, August 14, 2009 4:00:47 PM**
Grain-Size Analysis Report

Sample: 28-1-D - Average
Source: DAMOS
Cruise: DAMOS

Inclusive SD (Sorting Coeff.) = 1.96 phi (Poorly Sorted)
Inclusive Kurtosis = .9 phi (Platykurtic)
Inclusive Mean = 6.37 phi (Silt)

USGS
% Clay (0-2 um) = 12.51
% Fine Silt (2-3.9 um) = 9.51
% Clay (0-3.9 um) = 22.02
% Silt (3.91-31 um) = 50.56
% Coarse Silt (31 - 62.5 um) = 19.72
% Very Fine sand (62.5 - 125 um) = 5.53
% Fine sand (125-250 um) = .03
% Medium sand (250-500 um) = .33
% Coarse sand (500-1000 um) = 1
% Very Coarse sand (1000 - 2000 um) = .8

Notes:

Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 1028

Friday, August 14, 2009 4:05:23 PM

--28-1-D - Average, Friday, August 14, 2009 4:05:23 PM
Grain-Size Analysis Report

Sample: 28-1-E - Average
Source: USGS
Cruise: DAMOS

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<th>Obscuration:</th>
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Notes:

- D[4,3] = 37.92um = 4.72phi
- D[v,0.5] = 14.68um = 6.09phi
- D[v,0.16] = 2.46um = 8.67phi
- D[v,0.05] = 1.01um = 9.95phi
- D[v,0.95] = 71.29um = 3.61phi

- Standard Deviation = 136.73 um = 2.87phi
- Kurtosis = 80.01
- Skewness = 8.53
- Kurtosis = .87 phi (Platykurtic)
- Inclusive Mean = 6.44 phi (Silt)

- Inclusive SD (Sorting Coeff.) = 1.96 phi (Poorly Sorted)
- Inclusive Skewness = -0.25 (Coarse Skewed)
- Obscuration : 14.20

- Inclusive Mean = 6.44 phi (Silt)
- Inclusive Kurtosis = .87 phi (Platykurtic)
- Inclusive Skewness = -0.25 (Coarse Skewed)
- Obscuration : 14.20
### Grain-Size Analysis Report

| Sample:  | 28-1-F - Average |
| Source:  | DAMOS |
| Cruise:  | DAMOS |
| SOP Name: | DAMOS |
|Measured by: | Katy |
| Measured: | Friday, August 14, 2009 4:14:22 PM |

#### Particle Size Distribution

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#### Obscuration:

- **D[4.3]** = 41.75um = 4.58phi
- **D[v,0.5]** = 15.7um = 5.99phi
- **Kurtosis** = 68.43
- **Skewness** = 7.88
- **Standard Deviation** = 146.47 um = 2.77phi
- Inclusive SD (Sorting Coeff.) = 1.99 phi (Poorly Sorted)
- Inclusive Kurtosis = .88 phi (Platykurtic)
- Inclusive Skewness = -0.27 (Coarse Skewed)
- Inclusive Mean = 6.37 phi (Silt)

### Notes:

- **Fraunhofer** Dispersant Name:
- **Wentworth** Dispersant Name:

---

**Measured by:** Katy

**Sample:** 28-1-F - Average, Friday, August 14, 2009 4:14:22 PM
Grain-Size Analysis Report

Sample: 29-1-A - Average
Source: DAMOS
Cruise: DAMOS

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<tr>
<td>Silt (3.91-31 um)</td>
<td>49.78</td>
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<tr>
<td>Medium silt (250-500 um)</td>
<td>0.78</td>
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<tr>
<td>Very Fine sand (62.5 - 125 um)</td>
<td>6.4</td>
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<tr>
<td>Fine sand (125-250 um)</td>
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<td>Coarse sand (500-1000 um)</td>
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<tr>
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<tr>
<td>Coarse silt (31 - 62.5 um)</td>
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Inclusive SD (Sorting Coeff.) = 2.03 phi (Very Poorly Sorted)
Inclusive Skewness = -0.18 (Coarse Skewed)
Inclusive Kurtosis = .93 phi (Mesokurtic)
Inclusive Mean = 6.33 phi (Silt)

USGS
- Clay (0-2 um): 12.01%
- Fine Silt (2-3.9 um): 9.93%
- Silt (3.91-31 um): 49.78%
- Medium sand (250-500 um): 0.78%
- Coarse sand (500-1000 um): 1.46%
- Very fine sand (62.5 - 125 um): 6.4%
- Fine sand (125-250 um): 0.73%
- Coarse sand (1000 - 2000 um): 0.93%

Wentworth
- Clay (0-3.9 um): 21.95%
- Silt (3.91-31 um): 49.78%
- Medium sand (250-500 um): 0.78%
- Coarse sand (500-1000 um): 1.46%
- Very fine sand (62.5 - 125 um): 6.4%
- Fine sand (125-250 um): 0.73%
- Coarse sand (1000 - 2000 um): 0.93%

Notes:
- d (0.1) : 1.706 um
- d (0.5) : 14.960 um
- d (0.9) : 63.603 um
Grain-Size Analysis Report

Sample: 29-1-B - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Katy
Measured: Friday, August 14, 2009 5:17:34 PM

Particle Name: Fraunhofer Dispersant Name: Water
Particle RI: 0.000 Dispersant RI: 1.330
Absorption: 0

Inclusive SD (Sorting Coeff.) = 2.04 phi (Very Poorly Sorted) Inclusive Skewness = -0.18 (Coarse Skewed) Inclusive Kurtosis = .95 phi (Mesokurtic) Inclusive Mean = 6.29 phi (Silt)

USGS
% Clay (0-2 um) = 11.66
% Fine Silt (2-3.9 um) = 9.62
% Clay (0.3-3.9 um) = 21.28
% Silt (3.91-31 um) = 49.64
% Coarse Silt (31 - 62.5 um) = 18.36
% Very Fine sand (62.5 - 125 um) = 6.19
% Fine sand (125-250 um) = .65
% Medium sand (250-500 um) = .78
% Coarse sand (500-1000 um) = 1.8
% Very Coarse sand (1000 - 2000 um) = 1.3

Wentworth
% Clay (0-2 um) = 11.66
% Fine Silt (2-3.9 um) = 9.62
% Clay (0.3-3.9 um) = 21.28
% Silt (3.91-31 um) = 49.64
% Coarse Silt (31 - 62.5 um) = 18.36
% Very Fine sand (62.5 - 125 um) = 6.19
% Fine sand (125-250 um) = .65
% Medium sand (250-500 um) = .78
% Coarse sand (500-1000 um) = 1.8
% Very Coarse sand (1000 - 2000 um) = 1.3

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 1092
Grain-Size Analysis Report

Sample: 29-1-D - Average
Source: USGS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water
Particle RI: 0.000
Dispersant RI: 1.330
Absorption: 0

D[4,3] = 42.42um = 4.56phi
D[v,0.5] = 16.9um = 5.89phi
Kurtosis = 60
Skewness = 7.08

Inclusive SD (Sorting Coeff.) = 2 phi (Very Poorly Sorted)
Inclusive Skewness = -0.23 (Coarse Skewed)
Inclusive Mean = 6.21 phi (Silt)

USGS
% Clay (0-2 um) = 11.17
% Fine Silt (2-3.9 um) = 8.99
% Medium sand (250-500 um) = 1.27
% Coarse sand (500-1000 um) = 0.38
% Very Coarse sand (1000-2000 um) = 0.95

Wentworth
% Clay (0-3.9 um) = 20.15
% Silt (3.91-31 um) = 49.33
% Fine sand (125-250 um) = .95
% Medium sand (250-500 um) = 1.27
% Coarse sand (500-1000 um) = 1.35
% Very Coarse sand (1000-2000 um) = .38

Notes:
- Sample: 29-1-D - Average
- Source: USGS
- Cruise: DAMOS
- Particle Name: Fraunhofer
- Dispersant Name: Water
- Particle RI: 0.000
- Dispersant RI: 1.330
- Absorption: 0

% Coarse Silt (31 - 62.5 um) = 19.82
% Very Fine sand (62.5 - 125 um) = 1.27
% Fine sand (125-250 um) = .95
% Medium sand (250-500 um) = 1.27
% Coarse sand (500-1000 um) = 0.38
% Very Coarse sand (1000 - 2000 um) = .38

Notes:
- Sample: 29-1-D - Average
- Source: USGS
- Cruise: DAMOS
- Particle Name: Fraunhofer
- Dispersant Name: Water
- Particle RI: 0.000
- Dispersant RI: 1.330
- Absorption: 0

% Coarse Silt (31 - 62.5 um) = 19.82
% Very Fine sand (62.5 - 125 um) = 1.27
% Fine sand (125-250 um) = .95
% Medium sand (250-500 um) = 1.27
% Coarse sand (500-1000 um) = 0.38
% Very Coarse sand (1000 - 2000 um) = .38

Notes:
- Sample: 29-1-D - Average
- Source: USGS
- Cruise: DAMOS
- Particle Name: Fraunhofer
- Dispersant Name: Water
- Particle RI: 0.000
- Dispersant RI: 1.330
- Absorption: 0

% Coarse Silt (31 - 62.5 um) = 19.82
% Very Fine sand (62.5 - 125 um) = 1.27
% Fine sand (125-250 um) = .95
% Medium sand (250-500 um) = 1.27
% Coarse sand (500-1000 um) = 0.38
% Very Coarse sand (1000 - 2000 um) = .38

Notes:
Grain-Size Analysis Report

Sample: 29-1-E - Average
Source: USGS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water

<table>
<thead>
<tr>
<th>Size Hi phi</th>
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<th>% In</th>
<th>% Below</th>
<th>Size Hi phi</th>
<th>Size Lo phi</th>
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<th>% Below</th>
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Dispersant RI: 0.000  Absorption: 0  Obscuration: 19.45

% Coarse Silt (31-62.5 um) = 19.44
% Very Fine sand (62.5-125 um) = .04
% Medium sand (250-500 um) = .48
% Fine sand (125-250 um) = .04
% Very Coarse sand (1000 - 2000 um) = .6
% Coarse sand (1000-2000 um) = .6
% Silt (3.91-31 um) = 50.8
% Clay (0-2 um) = 12.27
% Fine Silt (2-3.9 um) = 9.57

Standard Deviation = 129.39 um = 2.95phi
Kurtosis = 81.26
Skewness = 8.46
McKee phi = 6.37

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 1104
Grain-Size Analysis Report

Sample: 29-1-F - Average
Source: USGS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water

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<th>% In</th>
<th>% Below</th>
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Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 1108
### Grain-Size Analysis Report

**Sample:** 30-1-A - Average  
**Source:**  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Julie  
**Measured:** Tuesday, August 04, 2009 3:00:35 PM  

**Particle Name:** Fraunhofer  
**Dispersant Name:** Water  

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**Notes:**

- **D[4,3] = 39.22um = 4.67phi**
- **D[3,5] = 16.96um = 5.88phi**
- **D[v,0.5] = 1.65um = 9.24phi**
- **Kurtosis = 111.1**
- **Skewness = 9.6**
- **Standard Deviation = 108.25 um = 3.21phi**
- **Inclusive SD (Sorting Coeff.) = 1.78 phi (Poorly Sorted)**
- **Inclusive Kurtosis = 1.05 phi (Mesokurtic)**
- **Inclusive Mean = 5.92 phi (Silt)**
- **Skewness = -0.08 (Near Symmetrical)**
- **Kurtosis = 1.05 phi (Mesokurtic)**

---

**Dispersant Name:** Fraunhofer  
**Dispersant RI:** 0.000  
**Absorption:** 0  
**Obscuration:** 24.78

---

**Obscuration:** 24.78

---

**Dispersant RI:** 1.330

---

**USGS**

- % Clay (0-2 um) = 6.26
- % Fine Silt (2-3.9 um) = 6.39

**Wentworth**

- % Clay (0-3.9 um) = 12.65
- % Silt (3.91-31 um) = 56.64
- % Coarse Silt (31 - 62.5 um) = 17.81
- % Very Fine sand (62.5 - 125 um) = 9.22
- % Fine sand (125-250 um) = 2.17
- % Medium sand (250-500 um) = .51
- % Coarse sand (500-1000 um) = .6
- % Very Coarse sand (1000 - 2000 um) = .42

---

**Notes:**

- % Clay (0-3.9 um) = 12.65
- % Silt (3.91-31 um) = 56.64
- % Coarse Silt (31 - 62.5 um) = 17.81
- % Very Fine sand (62.5 - 125 um) = 9.22
- % Fine sand (125-250 um) = 2.17
- % Medium sand (250-500 um) = .51
- % Coarse sand (500-1000 um) = .6
- % Very Coarse sand (1000 - 2000 um) = .42
Grain-Size Analysis Report

Sample: 30-1-B - Average
Source: DAMOS
Cruise: DAMOS

D[4,3] = 36.56um = 4.77phi
D[v,0.5] = 16.91um = 5.89phi
Kurtosis = 111.42
Skewness = 9.42

Inclusive SD (Sorting Coeff.) = 1.79 phi (Poorly Sorted)
Inclusive Skewness = -0.07 (Near Symmetrical)
Inclusive Mean = 5.91 phi (Silt)

D[4,3] = 36.56um = 4.77phi
D[v,0.5] = 16.91um = 5.89phi
Kurtosis = 111.42
Skewness = 9.42

Inclusive SD (Sorting Coeff.) = 1.79 phi (Poorly Sorted)
Inclusive Skewness = -0.07 (Near Symmetrical)
Inclusive Mean = 5.91 phi (Silt)

Inclusive SD (Sorting Coeff.) = 1.79 phi (Poorly Sorted)
Inclusive Skewness = -0.07 (Near Symmetrical)
Inclusive Mean = 5.91 phi (Silt)

Notes:
**Grain-Size Analysis Report**

**Sample:** 30-1-C - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Julie  
**Measured:** Tuesday, August 04, 2009 3:10:36 PM

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<th>Obscuration:</th>
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**D[4.3] = 44.22um = 4.5phi**  
**D[v,0.5] = 16.02um = 5.96phi**  
**D[v,0.16] = 7.73um = 4.16phi**  
**D[v,0.95] = 116.16um = 3.11phi**

**Inclusive SD (Sorting Coeff.) = 1.81 phi (Poorly Sorted)**  
**Inclusive Kurtosis = 1.01 phi (Mesokurtic)**  
**Inclusive Skewness = -0.02 (Near Symmetrical)**  
**Inclusive Mean = 5.95 phi (Silt)**

**USGS**  
% Clay (0-2 um) = 5.84  
% Fine Silt (2-3.9 um) = 6.91  
% Clay (0-3.9 um) = 12.75  
% Silt (3.91-31 um) = 56.48  
% Coarse Silt (31-62.5 um) = 17.06  
% Very Fine sand (62.5-125 um) = 9.24

**Wentworth**  
% Clay (0-2 um) = 5.84  
% Fine sand (125-250 um) = 2.04  
% Medium sand (250-500 um) = .83  
% Coarse sand (500-1000 um) = 1.1  
% Very Coarse sand (1000-2000 um) = .5

**Volume (%)**  
0.01 0.1 1 10 100 1000 3000

Notes:

- **30-1-C - Average, Tuesday, August 04, 2009 3:10:36 PM**

---

**Malvern Instruments Ltd.**  
**Mastersizer 2000 Ver. 5.22**  
**Serial Number: MAL101534**  
**Record Number: 88**

**File name:** DAMOS.mea
Grain-Size Analysis Report

Sample: 30-1-D - Average
Source: USGS
Cruise: DAMOS

Dispersant Name: Fraunhofer
Dispersant RI: 0.000
Volume Absorption: 0
Inclusive Kurtosis = 0.03 (Near Symmetrical)
Inclusive Mean = 6.08 phi (Silt)

Inclusive SD (Sorting Coeff.) = 1.76 phi (Poorly Sorted)
Inclusive Skewness = -0.03 (Near Symmetrical)
Inclusive Mean = 6.08 phi (Silt)

USGS
% Clay (0-2 um) = 6.3
% Fine Silt (2-3.9 um) = 7.43
% Clay (0-3.9 um) = 13.72
% Silt (3.91-31 um) = 58.66
% Coarse Silt (31-62.5 um) = 16.22
% Very Fine sand (62.5-125 um) = 8.29
% Fine sand (125-250 um) = 1.83
% Medium sand (250-500 um) = 0.32
% Coarse sand (500-1000 um) = 0.57
% Very Coarse sand (1000-2000 um) = 0.38

D[4,3] = 35.79um = 4.8phi
D[0,5] = 14.66um = 6.09phi
Kurtosis = 124.33
Skewness = 10.2
Inclusive Mean = 6.08 phi (Silt)

Obscuration : 27.81
Inclusive SD (Sorting Coeff.) = 1.76 phi (Poorly Sorted)

Notes:

---30-1-D - Average, Tuesday, August 04, 2009 3:15:06 PM---
**Grain-Size Analysis Report**

**Sample:** 30-1-E - Average  
**Source:**  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Julie  
**Measured:** Tuesday, August 04, 2009 3:19:37 PM  
**Notes:**

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Dispersant RI:</th>
<th>Absorption:</th>
<th>Inclusive Kurtosis</th>
<th>Inclusive Skewness</th>
<th>Inclusive SD (Sorting Coeff.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse Silt (31 - 62.5 um)</td>
<td>18.91</td>
<td></td>
<td>1.330</td>
<td>0</td>
<td>21.59</td>
<td>-0.23 (Coarse Skewed)</td>
<td>Poorly Sorted</td>
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<tr>
<td>Silt (3.91-31 um)</td>
<td>50.11</td>
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<tr>
<td>Fine Silt (2-3.9 um)</td>
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<tr>
<td>Clay (0-2 um)</td>
<td>12.83</td>
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<td></td>
</tr>
<tr>
<td>Very Fine sand (62.5 - 125 um)</td>
<td>5.36</td>
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<td>Medium sand (250-500 um)</td>
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<tr>
<td>Coarse sand (1000 - 2000 um)</td>
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<tr>
<td>Very Coarse sand (1000-2000 um)</td>
<td>1.41</td>
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<td>Fine sand (125-250 um)</td>
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<td>Coarse sand (500-1000 um)</td>
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<td>Organic (0.01 - 0.005)</td>
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</tbody>
</table>

**Notes:**

- **Dispersant Name:** Fraunhofer  
- **Particle RI:** Water  
- **Dispersant RI:** Water  
- **Volume (%):**
  - 0.01  0.1  1  10  100  1000  3000
- **Particle Size Distribution:**
  - 100  80  60  40  20  0
- **Particle Size (µm):**
  - 0.01  0.1  1  10  100  1000  3000
- **Volume (%):**
  - 100  80  60  40  20  0

**Grain-Size Analysis Report**

**Sample:** 30-1-E - Average  
**Source:**  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Julie  
**Measured:** Tuesday, August 04, 2009 3:19:37 PM  
**Notes:**

<table>
<thead>
<tr>
<th>Size Hi</th>
<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
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</tr>
</tbody>
</table>

**Notes:**

- **Dispersant Name:** Fraunhofer  
- **Particle RI:** Water  
- **Dispersant RI:** Water  
- **Volume (%):**
  - 0.01  0.1  1  10  100  1000  3000
- **Particle Size Distribution:**
  - 100  80  60  40  20  0
- **Particle Size (µm):**
  - 0.01  0.1  1  10  100  1000  3000
- **Volume (%):**
  - 100  80  60  40  20  0
**Grain-Size Analysis Report**

**Sample:** 30-1-F - Average  
**Source:** Damos  
**Cruise:** Julie  
**SOP Name:** DAMOS  
**Measured by:** Julie  
**Measured:** Tuesday, August 04, 2009 3:24:33 PM  

### Particle Name: Fraunhofer  
### Dispersant Name: Water  
### Particle Size Distribution

<table>
<thead>
<tr>
<th>Size Hi</th>
<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
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<td>phi</td>
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<td>-1</td>
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<tr>
<td>-0.5</td>
<td>1414.21</td>
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<td>1000.00</td>
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<td>500.00</td>
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<td>7.5</td>
<td>5.52</td>
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<td>3.90</td>
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</tbody>
</table>

**Notes:**

- **Obscuration:** 20.67
- **Kurtosis:** 5.63
- **Skewness:** 2.54
- **Inclusive SD (Sorting Coeff.) = 2.77 phi (Very Poorly Sorted)
- **Inclusive Kurtosis = 1.29 phi (Leptokurtic)
- **Inclusive Mean = 5.77 phi (Silt)**

---

**30-1-F - Average, Tuesday, August 04, 2009 3:24:33 PM**
**Grain-Size Analysis Report**

**Sample:** 31-1-A - Average  
**Source:**  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Julie  
**Measured:** Thursday, August 06, 2009 8:07:19 AM

**Particle Name:** Fraunhofer  
**Dispersant Name:** Water  
**Particle RI:** 0.000  
**Dispersant RI:** 1.330  
**Absorption:** 0  
**Inclusive SD (Sorting Coeff.) = 1.98 phi (Poorly Sorted)**  
**Inclusive Kurtosis = .88 phi (Platykurtic)**  
**Inclusive Mean = 6.51 phi (Silt)**

<table>
<thead>
<tr>
<th>Size Hi (um)</th>
<th>Size Lo (um)</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>31-1-A</td>
<td>Average, Thursday, August 06, 2009 8:07:19 AM</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

- d (0.1) : 1.548 um  
- d (0.5) : 13.387  
- d (0.9) : 53.762  
- Inclusive Kurtosis = 0.88 phi (Platykurtic)  
- Inclusive Mean = 6.51 phi (Silt)  
- Inclusive SD (Sorting Coeff.) = 1.98 phi (Poorly Sorted)  

**Obscuration : 15.48**

**Kurtosis = 55.14**

**Skewness = 7.21**

**Inclusive Mean = 6.51 phi (Silt)**

---

Malvern Instruments Ltd.  
Malvern, UK  
Mastersizer 2000 Ver. 5.22  
Serial Number : MAL101534  
File name: DAMOS.mea  
Record Number: 216
<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Fraunhofer</th>
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</thead>
<tbody>
<tr>
<td>Dispersant Name:</td>
<td>Water</td>
</tr>
<tr>
<td>Particle RI:</td>
<td>0.000</td>
</tr>
<tr>
<td>Absorption:</td>
<td>0</td>
</tr>
<tr>
<td>Obscuration:</td>
<td>15.51</td>
</tr>
</tbody>
</table>

| D[4,3] | 43.21um = 4.53 phi |
| D[0.5] | 10.1um = 9.94 phi |
| D[0.16] | 2.53um = 8.63 phi |

D[0.9] = 2.53um = 8.63 phi
D[0.95] = 78.72um = 3.67 phi
Standard Deviation = 154.03 um = 2.7 phi

Inclusive Kurtosis = .88 phi (Platykurtic)
Inclusive Mean = 6.35 phi (Silt)

USGS
% Clay (0-2 um) = 12.75
% Fine Silt (2-3.9 um) = 9.75
% Coarse Silt (31 - 62.5 um) = 20.29
% Very Fine sand (62.5 - 125 um) = 6.52
% Clay (0-3.9 um) = 22.5
% Silt (3.91-31 um) = 48.5
% Medium sand (250-500 um) = .18
% Fine sand (125-250 um) = .05
% Very Coarse sand (1000 - 2000 um) = .98

D[0.1] = 1.614 um
d (0.9) : 58.761
D[0.5] = 15.706

Notes:

Malvern Instruments Ltd.
Malvern, UK
SOP Name: DAMOS
Measured by: Julie
Measured: Thursday, August 06, 2009 8:18:17 AM
### Grain-Size Analysis Report

**Sample:** 31-1-D - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured:** Thursday, August 06, 2009 8:23:05 AM  
**Measured by:** Julie

<table>
<thead>
<tr>
<th>Particle Name</th>
<th>Dispersant Name</th>
<th>Particle RI</th>
<th>Dispensant RI</th>
<th>Absorption</th>
<th>Obscuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse Silt (31 - 62.5 µm)</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>14.83</td>
</tr>
</tbody>
</table>

\[ D[4,3] = 44.05 \text{um} = 4.5 \text{phi} \]
\[ D[\text{v},0.5] = 15.3 \text{um} = 6.03 \text{phi} \]
\[ D[\text{v},0.05] = 1.03 \text{um} = 9.82 \text{phi} \]
\[ D[\text{v},0.16] = 2.57 \text{um} = 8.61 \text{phi} \]

\[ \text{Kurtosis} = 61.81 \]
\[ \text{Skewness} = 7.59 \]
\[ \text{Standard Deviation} = 161.8 \text{um} = 2.63 \text{phi} \]

Inclusive SD (Sorting Coeff.) = 1.97 phi (Poorly Sorted)
Inclusive Kurtosis = .88 phi (Platykurtic)
Inclusive Mean = 6.37 phi (Silt)

<table>
<thead>
<tr>
<th>Particle Name</th>
<th>USGS</th>
<th>Wentworth</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Clay (0-2 um) = 12.54</td>
<td>% Clay (0-3.9 um) = 22.37</td>
<td>% Fine sand (125-250 um) = .03</td>
</tr>
<tr>
<td>% Fine Silt (2-3.9 um) = 9.83</td>
<td>% Silt (3.91-31 um) = 49.88</td>
<td>% Medium sand (250-500 um) = .15</td>
</tr>
<tr>
<td>d (0.1) = 1.640 \text{um}</td>
<td>% Coarse Silt (31 - 62.5 um) = 19.74</td>
<td>% Coarse sand (500-1000 um) = .95</td>
</tr>
<tr>
<td>d (0.5) = 15.295</td>
<td>% Very Fine sand (62.5 - 125 um) = 5.76</td>
<td>% Very Coarse sand (1000 - 2000 um) = 1.11</td>
</tr>
</tbody>
</table>

**Notes:**

- d (0.9) : 56.633
- d (0.5) : 15.295
- d (0.1) : 1.640

---

**31-1-D - Average, Thursday, August 06, 2009 8:23:05 AM**
Grain-Size Analysis Report

Sample: 31-1-DM - Average  
Source: DAMOS  
Cruise: DAMOS  
SOP Name: DAMOS  
Measured by: Julie  
Measured: Thursday, August 06, 2009 9:22:06 AM

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<th>Particle Name: Fraunhofer</th>
<th>Dispersant Name: Water</th>
<th>Particle RI: 0.000</th>
<th>Dispersant RI: 1.330</th>
<th>Absorption: 0</th>
<th>Obscuration: 16.10</th>
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</thead>
<tbody>
<tr>
<td>D[4.3] = 44.26um = 4.5phi</td>
<td>D[ν,0.5] = 4.65um = 7.75phi</td>
<td>D[ν,0.84] = 16.65um = 5.91phi</td>
<td>D[ν,0.95] = 46.96um = 4.41phi</td>
<td>Kurtosis = 36.86</td>
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<tr>
<td>Skewness = 5.92</td>
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<tr>
<td>Standard Deviation = 196.4 um = 2.35phi</td>
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</tr>
</tbody>
</table>

Inclusive SD (Sorting Coeff.) = 1.77 phi (Poorly Sorted)  
Inclusive Kurtosis = 1.01 phi (Mesokurtic)  
Inclusive Skewness = 0.09 (Near Symmetrical)  
Inclusive Mean = 7.69 phi (Silt)

USGS  
% Clay (0-2 um) = 23.91  
% Fine Silt (2-3.9 um) = 20.4  
% Coarse Silt (31 - 62.5 um) = 3.49  
% Very Fine sand (62.5 - 125 um) = .36

Wentworth  
% Clay (0-3.9 um) = 44.31  
% Silt (3.91-31 um) = 48.02  
% Coarse Silt (31 - 62.5 um) = 3.49  
% Very Fine sand (62.5 - 125 um) = .36

Notes:

---31-1-DM - Average, Thursday, August 06, 2009 9:22:06 AM---

Notes:

- Water Absorption: 16.10
- Inclusive SD (Sorting Coeff.) = 1.77 phi (Poorly Sorted)
- Inclusive Kurtosis = 1.01 phi (Mesokurtic)
- Inclusive Skewness = 0.09 (Near Symmetrical)
- Inclusive Mean = 7.69 phi (Silt)

Malvern Instruments Ltd.  
Malvern, UK  
Mastersizer 2000 Ver. 5.22  
Serial Number: MAL101534  
File name: DAMOS.mea  
Record Number: 252
Grain-Size Analysis Report

Sample: 31-1-E - Average  
Source: DAMOS  
Cruise: DAMOS  
SOP Name: DAMOS  
Measured by: Julie  
Measured: Thursday, August 06, 2009 8:27:51 AM

Particle Name: Fraunhofer  
Dispersant Name: Water  
Particle RI: 0.000  
Dispersant RI: 1.330  
Absorption: 0  
Obscuration: 12.84

D[4.3] = 46.25µm = 4.43phi  
D[v,0.5] = 15.9µm = 5.98phi  
Kurtosis = 54.67

D[v,0.05] = 1.05µm = 8.98phi  
D[v,0.16] = 2.67µm = 8.55phi  
Skewness = 7.2

D[4,3] = 46.25um = 4.43phi  
D[v,0.5] = 15.9um = 5.98phi

Standard Deviation = 168.35 µm = 2.57phi

Inclusive SD (Sorting Coeff.) = 1.97 phi (Poorly Sorted)  
Inclusive Skewness = -0.26 (Coarse Skewed)  
Inclusive Kurtosis = .9 phi (Platykurtic)

Inclusive Mean = 6.32 phi (Silt)

USGS
% Clay (0-2 µm) = 12.11
% Fine Silt (2-3.9 µm) = 9.47
% Coarse Silt (31 - 62.5 µm) = 20.14
% Very Fine sand (62.5 - 125 um) = 6.08
% Clay (0-3.9 um) = 21.58
% Silt (3.91-31 um) = 49.88
% Coarse Silt (31 - 62.5 um) = 20.14
% Very Fine sand (62.5 - 125 um) = 6.08
% Medium sand (250-500 um) = .04
% Coarse sand (500-1000 um) = .91
% Very Coarse sand (1000 - 2000 um) = 1.29

Notes:

File name: DAMOS.mea
Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
Record Number: 232
### Grain-Size Analysis Report

**Sample:** 31-1-F - Average  
**Source:** DAMOS  
**Cruise:** DAMOS

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Absorption:</th>
<th>Obscuration:</th>
<th>Inclusive Kurtosis = 65.98</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Clay (0-2 um) = 13.26</td>
<td>Water</td>
<td>0.000</td>
<td>0</td>
<td>-- --</td>
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</tr>
<tr>
<td>% Fine Silt (2-3.9 um) = 10.37</td>
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<td>1.330</td>
<td>0</td>
<td>2.74phi</td>
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</table>

- **D[4,3] = 40.69um = 4.62phi**
- **D[0.5] = 13.75um = 6.18phi**
- **D[0.16] = 8.69phi**
- **D[0.95] = 71.94um = 3.6phi**

**USGS**
- % Clay (0-2 um) = 13.26
- % Fine Silt (2-3.9 um) = 10.37

- d (0.1) : 1.569 um
- d (0.5) : 13.748 um

**Wentworth**
- % Clay (0-3.9 um) = 23.63
- % Silt (3.91-31 um) = 51.31
- % Coarse Silt (31 - 62.5 um) = 18.13
- % Very Fine sand (62.5 - 125 um) = 4.65

- % Fine sand (125-250 um) = .01
- % Medium sand (250-500 um) = .29
- % Coarse sand (500-1000 um) = 1.1
- % Very Coarse sand (1000 - 2000 um) = .88

---

**Notes:**

- **Mean:** 6.49 phi (Silt)
- **Skewness:** -0.22 (Coarse Skewed)
- **Kurtosis:** 6.98 phi (Platykurtic)

---

**File name:** DAMOS.mea

---

**Malvern Instruments Ltd. Malvern, UK**

**Mastersizer 2000 Ver. 5.22**

**Serial Number:** MAL101534

**Record Number:** 236
Grain-Size Analysis Report

Sample: 32-1-D - Average
Source: DAMOS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water

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<th>% In</th>
<th>% Below</th>
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Notes:

- Size Hi: phi = um
- Size Lo: phi = um
- % In
- % Below
- Size HI: phi = um
- Size Lo: phi = um
- % In
- % Below

Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
Record Number: 1168

File name: DAMOS.mea
Grain-Size Analysis Report

| Sample: | 32-1-E - Average |
| Source: | DAMOS |
| Cruise: | DAMOS |

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<th>Dispersant Name</th>
<th>Particle RI</th>
<th>Absorption</th>
<th>Obscuration</th>
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<th>% Below</th>
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<th>Size Lo</th>
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Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 1172
Grain-Size Analysis Report

Sample: 32-1-F - Average
Source: DAMOS
Cruise: DAMOS

Inclusive SD (Sorting Coeff.) = 1.94 phi (Poorly Sorted)
Inclusive Kurtosis = 0.25 (Coarse Skewed)
Inclusive Mean = 6.49 phi (Silt)

USGS
% Clay (0-2 um) = 13.32
% Fine Silt (2-3.9 um) = 10.42
% Coarse Silt (31 - 62.5 um) = 19.58
% Very Fine sand (62.5 - 125 um) = 5.54

Wentworth
% Clay (0-3.9 um) = 23.74
% Silt (3.91-31 um) = 51.12
% Coarse Silt (31 - 62.5 um) = 19.58
% Very Fine sand (62.5 - 125 um) = 5.54

Notes:

---

Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
Record Number: 1176

File name: DAMOS.mea
Grain-Size Analysis Report

Sample: 34-1-A - Average
Source: USGS
Cruise: Administrator

SOP Name: DAMOS
Measured by: Administrator
Measured: Wednesday, August 12, 2009 2:28:08 PM

Inclusive SD (Sorting Coeff.) = 1.94 phi (Poorly Sorted)
Inclusive Kurtosis = .9 phi (Platykurtic)
Inclusive Mean = 6.29 phi (Silt)

USGS
% Clay (0-2 um) = 11.49
% Fine Silt (2-3.9 um) = 9.43

Wentworth
% Clay (0-3.9 um) = 20.92
% Silt (3.91-31 um) = 50.15
% Coarse Silt (31 - 62.5 um) = 20.36
% Very Fine sand (62.5 - 125 um) = 7.15
% Fine sand (125-250 um) = .26
% Medium sand (250-500 um) = .23
% Coarse sand (500-1000 um) = .68
% Very Coarse sand (1000 - 2000 um) = .26

Notes:
- d (0.1) : 1.771 um
- d (0.5) : 16.014 um
- d (0.9) : 58.496 um

---

### Particle Size Distribution

#### Size Hi
- phi: 8
- um: (3.90)
- phi: 8.5
- um: (2.76)
- % In: 5.15
- % Below: 20.94

#### Size Lo
- phi: -1
- um: (2000.00)
- phi: -0.5
- um: (1414.21)
- % In: 0.02
- % Below: 100

---

Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 700
Grain-Size Analysis Report

Sample: 34-1-B - Average
Source: USGS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Administrator
Measured: Wednesday, August 12, 2009 2:32:33 PM

Particle Name: Fraunhofer
Dispersant Name: Water
Particle RI: 0.000
Dispersant RI: 1.330
Absorption: 0

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<tr>
<th>Size Hi (um)</th>
<th>Size Lo (um)</th>
<th>% In</th>
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Inclusive SD (Sorting Coeff.) = 1.98 phi (Poorly Sorted)
Inclusive Kurtosis = .89 phi (Platykurtic)
Inclusive Skewness = -0.25 (Coarse Skewed)
Inclusive Mean = 6.31 phi (Silt)

Notes:

- Obscuration:
  - 17.26
  - D[4,3] = 38.93um = 4.68phi
  - D[v,0.5] = 15.89um = 5.98phi
  - D[v,0.16] = 2.68um = 8.54phi
  - D[v,0.95] = 79.11um = 3.66phi
  - Kurtosis = 86.93
  - Skewness = 8.87
  - Standard Deviation = 134.29 um = 2.9phi

- Particle RI:
  - Water
  - Fraunhofer

- Dispersant Name:
  - Water
  - Fraunhofer

- Source:
  - USGS

- Measured:
  - Wednesday, August 12, 2009 2:32:33 PM

- Cruise:
  - DAMOS

- SOP Name:
  - DAMOS

- Sample:
  - 34-1-B - Average

- Volume (%)
  - 0.01 - 1 - 10 - 100 - 1000 - 3000

- Particle Size (um)
  - 0 - 0.1 - 1 - 10 - 100 - 1000

- Size Hi (um) | Size Lo (um) | % In | % Below |
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<td>5.0 (31.25)</td>
<td>5.5 (22.10)</td>
<td>11.36</td>
<td>79.99</td>
</tr>
<tr>
<td>5.5 (22.10)</td>
<td>6.0 (15.63)</td>
<td>10.09</td>
<td>59.64</td>
</tr>
<tr>
<td>6.0 (15.63)</td>
<td>6.5 (11.05)</td>
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<td>49.54</td>
</tr>
<tr>
<td>6.5 (11.05)</td>
<td>7.0 (7.81)</td>
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</tr>
<tr>
<td>7.0 (7.81)</td>
<td>7.5 (5.52)</td>
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<td>7.5 (5.52)</td>
<td>8.0 (3.90)</td>
<td>5.75</td>
<td>27.41</td>
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</tbody>
</table>

Notes:

- Malvern Instruments Ltd.
- Mastersizer 2000 Ver. 5.22
- Serial Number: MAL101534
- File name: DAMOS.mea
- Record Number: 704

---

34-1-B - Average, Wednesday, August 12, 2009 2:32:33 PM
Grain-Size Analysis Report

Sample: 34-1-C - Average  
Source: DAMOS  
Cruise: DAMOS  
SOP Name: DAMOS  
Measured by: Administrator  
Measured: Wednesday, August 12, 2009 2:37:19 PM

<table>
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<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Dispersant RI:</th>
<th>Absorption:</th>
<th>Inclusive Mean:</th>
<th>Kurtosis:</th>
<th>Inclusive SD:</th>
<th>Inclusive Skewness:</th>
<th>Inclusive Kurtosis:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse Silt (31 - 62.5 um) = 20.44</td>
<td>% Coarse Silt (31 - 62.5 um) = 20.44</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>6.3 phi (Silt)</td>
<td>147.78</td>
<td>1.97 phi (Poorly Sorted)</td>
<td>-0.25phi (Coarse Skewed)</td>
<td>.88 phi (Platykurtic)</td>
</tr>
<tr>
<td>Fine Silt (2-3.9 um) = 9.64</td>
<td>% Fine Silt (2-3.9 um) = 9.64</td>
<td>0.1</td>
<td>0.69</td>
<td>0</td>
<td>1.38phi (Medium sand)</td>
<td>11.53</td>
<td>0.32phi (Fine sand)</td>
<td>0.23phi (Medium sand)</td>
<td>.6phi (Very coarse sand)</td>
</tr>
<tr>
<td>Clay (0-2 um) = 11.83</td>
<td>% Clay (0-2 um) = 11.83</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>9.99phi (Very coarse sand)</td>
<td>16.25</td>
<td>0.32phi (Fine sand)</td>
<td>0.23phi (Medium sand)</td>
<td>.6phi (Very coarse sand)</td>
</tr>
<tr>
<td>Very Fine sand (62.5 - 125 um) = 7.54</td>
<td>% Very Fine sand (62.5 - 125 um) = 7.54</td>
<td>0</td>
<td>0</td>
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<td>9.99phi (Very coarse sand)</td>
<td>16.25</td>
<td>0.32phi (Fine sand)</td>
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<td>.6phi (Very coarse sand)</td>
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<tr>
<td>Medium sand (250-500 um) = .23</td>
<td>% Medium sand (250-500 um) = .23</td>
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<td>9.99phi (Very coarse sand)</td>
<td>16.25</td>
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<td>.6phi (Very coarse sand)</td>
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<tr>
<td>Coarse sand (500-1000 um) = .6</td>
<td>% Coarse sand (500-1000 um) = .6</td>
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<td>0</td>
<td>9.99phi (Very coarse sand)</td>
<td>16.25</td>
<td>0.32phi (Fine sand)</td>
<td>0.23phi (Medium sand)</td>
<td>.6phi (Very coarse sand)</td>
</tr>
<tr>
<td>Very Coarse sand (1000 - 2000 um) = .2</td>
<td>% Very Coarse sand (1000 - 2000 um) = .2</td>
<td>0</td>
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<td>0</td>
<td>9.99phi (Very coarse sand)</td>
<td>16.25</td>
<td>0.32phi (Fine sand)</td>
<td>0.23phi (Medium sand)</td>
<td>.6phi (Very coarse sand)</td>
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</table>

Notes:

Volts: Malvern Instruments Ltd.  
Mastersizer 2000 Ver. 5.22  
Serial Number : MAL101534  
File name: DAMOS.mea  
Record Number: 708
### Grain-Size Analysis Report

**Sample:** 34-1-G - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Katy  
**Measured:** Thursday, August 13, 2009 2:23:08 PM

<table>
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<tr>
<th>Particle Name:</th>
<th>Fraunhofer</th>
<th>Particle RI:</th>
<th>Dispersant RI:</th>
<th>Absorption:</th>
<th>Inclusive SD (Sorting Coeff.)</th>
<th>Kurtosis</th>
<th>Inclusive Skewness</th>
<th>Inclusive Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse Silt (31 - 62.5 um)</td>
<td>21.33</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>1.99 phi (Poorly Sorted)</td>
<td>114.14</td>
<td>-0.27 (Coarse Skewed)</td>
<td>6.26 phi (Silt)</td>
</tr>
</tbody>
</table>

#### USGS

- **% Clay (0-2 um):** 11.95
- **% Fine Silt (2-3.9 um):** 9.41

**D[4,3] = 34.09um = 4.87phi**  
**D[v,0.5] = 16.77um = 5.9phi**  
**D[v,0.16] = 2.7um = 8.53phi**

---

#### Wentworth

- **% Clay (0-3.9 um):** 21.36
- **% Silt (3.91-31 um):** 47.85
- **% Coarse Silt (31 - 62.5 um):** 21.33
- **% Very Fine sand (62.5 - 125 um):** 7.79

**D[4,3] = 34.09um = 4.87phi**  
**D[v,0.5] = 16.77um = 5.9phi**  
**D[v,0.16] = 2.7um = 8.53phi**

---

#### Obscuration:

- **D[0.05] = 1.07um = 9.87phi**
- **D[0.1] = 1.712 um**
- **D[0.9] = 61.014 um**

---

### Notes:

- **D[4,3] = 34.09um = 4.87phi**
- **D[v,0.5] = 16.77um = 5.9phi**
- **D[v,0.16] = 2.7um = 8.53phi**

---

**d (0.1) : 1.712 um**  
**d (0.5) : 16.768**  
**d (0.9) : 61.014**

---

**Volume (%)**

---

**Notes:**

© Malvern Instruments Ltd.  
Malvern, UK  
Mastersizer 2000 Ver. 5.22  
Serial Number : MAL101534  
File name: DAMOS.mea  
Record Number: 800
Grain-Size Analysis Report

Sample: 34-1-H - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured: Thursday, August 13, 2009 3:27:28 PM
Measured by: Katy

Particle Name: Fraunhofer
Dispersant Name: Water
Particle RI: 0.000
Dispersant RI: 1.330
Absorption: 0
Inclusive SD (Sorting Coeff.) = .87 phi (Platykurtic)
Inclusive Kurtosis = .87 phi (Platykurtic)
Inclusive Mean = 6.37 phi (Silt)

USGS
% Clay (0-2 um) = 12.21
% Fine Silt (2-3.9 um) = 9.89

Wentworth
% Clay (0-3.9 um) = 22.1
% Silt (3.91-31 um) = 50.31
% Coarse Silt (31 - 62.5 um) = 21.1
% Very Fine sand (62.5 - 125 um) = 6.45
% Fine sand (125-250 um) = .03
% Medium sand (250-500 um) = 0
% Coarse sand (500-1000 um) = 0
% Very Coarse sand (1000 - 2000 um) = 0

-1 (2000.00) -0.5 (1414.21) 0 100 8.0 (3.90) 8.5 (2.76) 5.36 22.13
-0.5 (1414.21) 0.0 (1000.00) 0 100 8.5 (2.76) 9.0 (1.95) 4.87 16.77
0 (1000.00) 0.5 (707.10) 0 100 9.0 (1.95) 9.5 (1.38) 4.23 11.9
0.5 (707.10) 1.0 (500.00) 0 100 9.5 (1.38) 10.0 (0.98) 3.37 7.67
1.0 (500.00) 1.5 (353.55) 0 100 10.0 (0.98) 10.5 (0.69) 2.36 4.3
1.5 (353.55) 2.0 (250.00) 0 100 10.5 (0.69) 11.0 (0.49) 1.36 1.94
2.0 (250.00) 2.5 (176.78) 0 100 11.0 (0.49) 11.5 (0.35) 0.53 0.58
2.5 (176.78) 3.0 (125.00) 0.03 100 11.5 (0.35) 12.0 (0.24) 0.05 0.05
3.0 (125.00) 3.5 (88.39) 1.52 99.97 12.0 (0.24) 12.5 (0.17) 0 0
3.5 (88.39) 4.0 (62.50) 4.93 98.45 12.5 (0.17) 13.0 (0.12) 0 0
4.0 (62.50) 4.5 (44.19) 9.04 93.52 13.0 (0.12) 13.5 (0.086) 0 0
4.5 (44.19) 5.0 (31.25) 11.78 84.48 13.5 (0.086) 14.0 (0.061) 0 0
5.0 (31.25) 5.5 (22.10) 12.03 72.7 14.0 (0.061) 14.5 (0.043) 0 0
5.5 (22.10) 6.0 (15.63) 10.51 60.66 14.5 (0.043) 15.0 (0.030) 0 0
6.0 (15.63) 6.5 (11.05) 8.65 50.15 15.0 (0.030) 15.5 (0.020) 0 0
6.5 (11.05) 7.0 (7.81) 7.23 41.5 15.5 (0.020) 16.0 (0.013) 0 0
7.0 (7.81) 7.5 (5.52) 6.35 34.27 16.0 (0.013) 16.5 (0.006) 0 0
7.5 (5.52) 8.0 (3.90) 5.79 27.92 16.5 (0.006) 17.0 (0.000) 0 0

Notes:
Grain-Size Analysis Report

Sample: 34-1-I - Average  
Source:  
Cruise: DAMOS

Particle Name: Fraunhofer  
Dispersant Name: Water

<table>
<thead>
<tr>
<th>Particle Size Distribution</th>
<th>D[4,3] = 25.4um = 5.3phi</th>
<th>D[v,0.5] = 16.14um = 5.95phi</th>
<th>D[v,0.16] = 2.7um = 8.53phi</th>
</tr>
</thead>
<tbody>
<tr>
<td>D[0.5] = 1.727 um</td>
<td>D[v,0.5] = 1.88um = 9.85phi</td>
<td>D[v,0.04] = 46.39um = 4.43phi</td>
<td></td>
</tr>
<tr>
<td>D[0.1] = 16.143 um</td>
<td>D[v,0.95] = 72.67um = 3.76phi</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Inclusive SD (Sorting Coeff.) = 0.94 phi (Poorly Sorted)  
Inclusive Skewness = -0.27 (Coarse Skewed)  
Inclusive Kurtosis = 0.87 phi (Platykurtic)

D[4,3] = 25.4um = 5.3phi  
D[v,0.5] = 16.14um = 5.95phi  
D[v,0.16] = 2.7um = 8.53phi

Inclusive Kurtosis = 0.87 phi (Platykurtic)

USGS
% Clay (0-2 um) = 11.85
% Fine Silt (2-3.9 um) = 9.67
% Medium Sand (250-500 um) = 0.09
% Coarse Silt (31 - 62.5 um) = 21.62
% Clay (0-3.9 um) = 21.53
% Silt (3.91-31 um) = 48.89
% Very Fine Sand (62.5 - 125 um) = 7.56
% Coarse Sand (1000 - 2000 um) = 0.4

Wentworth
% Fine Sand (125-250 um) = .12
% Medium Sand (250-500 um) = .09
% Coarse Sand (500-1000 um) = .16
% Very Coarse Sand (1000 - 2000 um) = .04

Notes:

Malvern Instruments Ltd.  
Malvern, UK  
Mastersizer 2000 Ver. 5.22  
Serial Number: MAL101534  
File name: DAMOS.mea  
Record Number: 808
Grain-Size Analysis Report

Sample: 34-1-J - Average
Source: USGS
Cruise: Katy

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Absorption:</th>
<th>Obscuration:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraunhofer</td>
<td>Water</td>
<td>0.000</td>
<td>0</td>
<td>19.97</td>
</tr>
</tbody>
</table>

\[ D_{[4,3]} = 64.51\text{um} = 3.95\text{phi} \]
\[ D_{[v,0.5]} = 1.04\text{um} = 9.91\text{phi} \]
\[ D_{[v,0.16]} = 2.59\text{um} = 8.59\text{phi} \]

\[ D_{[v,0.05]} = 50.42\text{um} = 4.31\text{phi} \]
\[ D_{[v,0.05]} = 102.33\text{um} = 3.29\text{phi} \]

Kurtosis = 29.9
Skewness = 5.39
Inclusive SD (Sorting Coeff.) = 2.07 phi (Very Poorly Sorted)
Inclusive Skewness = -0.2 (Coarse Skewed)
Inclusive Mean = 6.29 phi (Silt)

USGS
% Clay (0-2 um) = 12.43
% Fine Silt (2-3.9 um) = 9.8
% Coarse Silt (31-62.5 um) = 19.43
% Very Fine Silt (2-3.9 um) = 9.8
% Fine Silt (2-3.9 um) = 12.11
% Medium sand (250-500 um) = 0.3
% Fine sand (125-250 um) = 0.17
% Very Fine sand (62.5-125 um) = 6.78
% Very Coarse sand (1000-2000 um) = 2.17
% Clay (0-3.9 um) = 22.23
% Silt (3.91-31 um) = 47.27
% Coarse Silt (31-62.5 um) = 19.43
% Very Fine sand (62.5-125 um) = 6.78

Notes:

34-1-J - Average, Thursday, August 13, 2009 3:40:06 PM
Grain-Size Analysis Report

Sample: 34-1-K - Average
Source: USGS
Cruise: Katy

D[4,3] = 71.29µm = 3.81phi
D[v,0.5] = 13.37um = 6.23phi
Kurtosis = 23.55
Skewness = 4.77
Inclusive Mean = 6.46 phi (Silt)
Inclusive Skewness = 0 (Near Symmetrical)
Inclusive Kurtosis = 1.18 phi (Leptokurtic)
Inclusive SD (Sorting Coeff.) = 2.48 phi (Very Poorly Sorted)

USGS
% Clay (0-2 um) = 14.34
% Fine Silt (2-3.9 um) = 10.79
% Coarse Silt (31-62.5 um) = 16.2
% Very Fine sand (62.5-125 um) = 5.74
% Clay (0-3.9 um) = 25.13
% Silt (3.91-31 um) = 47.36
% Coarse Silt (31-62.5 um) = 16.2
% Very Fine sand (62.5-125 um) = 5.74

Wentworth
% Clay (125-250 um) = .2
% Medium sand (250-500 um) = .4
% Coarse sand (500-1000 um) = 2.72
% Very Coarse sand (1000-2000 um) = 2.26

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
Record Number: 816
File name: DAMOS.mea
Grain-Size Analysis Report

Sample: 34-1-L - Average
Source: USGS
Cruise: DAMOS

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Absorption:</th>
<th>Obscuration:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraunhofer</td>
<td>Water</td>
<td>0.000</td>
<td>1.330</td>
<td>16.03</td>
</tr>
</tbody>
</table>

\[D(4,3) = 39.71um = 4.65\text{phi}\]
\[D(v,0.5) = 14.33um = 6.12\text{phi}\]
\[D(v,0.16) = 2.54um = 8.62\text{phi}\]

- Volume (%): 34-1-L - Average, Thursday, August 13, 2009 3:50:26 PM

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 820
Grain-Size Analysis Report

Sample: 34-1-M - Average
Source: USGS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water
Particle RI: 0.000
Dispersant RI: 1.330
Absorption: 0
Oscillation: 17.03

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Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 824
Grain-Size Analysis Report

Sample: 35-1-A - Average  
Source:  
Cruise:  
SOP Name: DAMOS  
Measured by: Katy  
Measured: Monday, August 17, 2009 12:20:38 PM

<table>
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<tr>
<th>Particle Name:</th>
<th>Dispersant Name:</th>
<th>Particle RI:</th>
<th>Dispersant RI:</th>
<th>Absorption:</th>
<th>Obscuration:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coarse Silt (31 - 62.5 um) = 14.17</td>
<td>Fraunhofer</td>
<td>0.000</td>
<td>1.330</td>
<td>0</td>
<td>17.99</td>
</tr>
<tr>
<td>Very Fine sand (62.5 - 125 um) = 6.21</td>
<td>Water</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clay (0-2 um) = 11.84</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Fine Silt (2-3.9 um) = 10.26</td>
<td></td>
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<tr>
<td>Coarse Silt (31 - 62.5 um) = 14.17</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Very Fine sand (62.5 - 125 um) = 6.21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Coarse sand (1000 - 2000 um) = 2.18</td>
<td></td>
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</tr>
</tbody>
</table>

USGS
- % Clay (0-2 um) = 11.84
- % Fine Silt (2-3.9 um) = 10.26
- % Coarse Silt (31 - 62.5 um) = 14.17
- % Very Fine sand (62.5 - 125 um) = 6.21

Wentworth
- % Clay (0-3.9 um) = 22.1
- % Silt (3.91-31 um) = 45.55
- % Coarse Silt (31 - 62.5 um) = 14.17
- % Very Fine sand (62.5 - 125 um) = 6.21

<table>
<thead>
<tr>
<th>Size Hi</th>
<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
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<tr>
<td>phi um</td>
<td>phi um</td>
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<td></td>
</tr>
<tr>
<td>-1 (2000.00)</td>
<td>-0.5 (1414.21)</td>
<td>0.73</td>
<td>100</td>
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<tr>
<td>-0.5 (1414.21)</td>
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<td>0.0 (1000.00)</td>
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<td>0.5 (707.10)</td>
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<td>96.09</td>
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<td>22.12</td>
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<tr>
<td>8.5 (2.76)</td>
<td>9.0 (1.95)</td>
<td>4.92</td>
<td>16.44</td>
</tr>
<tr>
<td>9.0 (1.95)</td>
<td>(1.38)</td>
<td>4.12</td>
<td>11.52</td>
</tr>
<tr>
<td>9.5 (1.38)</td>
<td>10.0 (0.98)</td>
<td>3.23</td>
<td>7.4</td>
</tr>
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<td>10.0 (0.98)</td>
<td>10.5 (0.69)</td>
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<td>4.17</td>
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<td>1.91</td>
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<td>0.59</td>
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<td>11.5 (0.35)</td>
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<td>0.05</td>
<td>0.05</td>
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<tr>
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<tr>
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<tr>
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<td>15.0 (0.030)</td>
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Notes:

35-1-A - Average, Monday, August 17, 2009 12:20:38 PM
Grain-Size Analysis Report

Sample: 35-1-D - Average
Source: DAMOS
Cruise: DAMOS

D[4,3] = 21.54um = 5.54phi
D[v,0.5] = 14.33um = 6.13phi
Kurtosis = 2.32
Skewness = 1.51

Inclusive SD (Sorting Coeff.) = 1.9 phi (Poorly Sorted)
Inclusive Skewness = 0.24 (Coarse Skewed)
Inclusive Mean = 6.42 phi (Silt)

Inclusive Kurtosis = .88 phi (Platykurtic)
Inclusive Mean = 6.42 phi (Silt)

USGS
% Clay (0-2 um) = 12.16
% Fine Silt (2-3.9 um) = 10.01
% Medium Sand (250-500 um) = 0
% Coarse Sand (500-1000 um) = 0

Wentworth
% Very Fine Sand (62.5 - 125 um) = 19.6
% Fine Sand (125-250 um) = .03
% Medium Sand (250-500 um) = 0
% Coarse Sand (500-1000 um) = 0
% Very Coarse Sand (1000 - 2000 um) = 0

Notes:

---

35-1-D - Average, Monday, August 17, 2009 12:53:41 PM
Grain-Size Analysis Report

Sample: 35-1-E - Average  
Source: USGS  
Cruise: DAMOS  
SOP Name: DAMOS  
Measured by: Katy  
Measured: Monday, August 17, 2009 12:58:42 PM

Particle Name: Fraunhofer  
Dispersant Name: Water  
Particle RI: 0.000  
Dispersant RI: 1.330  
Absorption: 0  
Inclusive Kurtosis = .88 phi (Platykurtic)  
Inclusive Skewness = -0.26 (Coarse Skewed)  
Inclusive Mean = 6.43 phi (Silt)

D[4,3] = 23.93um = 5.39phi  
D[v,0.5] = 14.5um = 6.11phi  
D[v,0.05] = 1.05um = 8.9phi  
Kurtosis = 303.85

Inclusive SD (Sorting Coeff.) = 1.9 phi (Poorly Sorted)  
Inclusive Skewness = -0.26 (Coarse Skewed)  
Inclusive Mean = 6.43 phi (Silt)

USGS  
% Clay (0-2 um) = 12.29  
% Fine Silt (2-3.9 um) = 10  
% Clay (0-3.9 um) = 22.29  
% Medium sand (250-500 um) = .08

Wentworth  
% Very Fine sand (62.5 - 125 um) = 19.96  
% Medium sand (250-500 um) = .08  
% Clay (0-2 um) = 22.29  
% Establishing frequency = 0.08

% Clay (0-3.9 um) = 22.29
% Fine Silt (2-3.9 um) = 10
% Clay (3.9 - 15.6 um) = 94.48
% Silt (3.91 - 31 um) = 52.24
% Coarse Silt (31 - 62.5 um) = 19.96
% Very Fine sand (62.5 - 125 um) = 5.14
% Silt (62.5 - 200 um) = 4.22
% Very Coarse sand (1000 - 2000 um) = .12
% Coarse sand (500 - 1000 um) = .18
% Fine sand (125 - 250 um) = 0
% Coarse sand (1000 - 2000 um) = .12
% Clay (0 - 2 um) = 12.29
% Fine Silt (2 - 3.9 um) = 10
% Clay (0 - 3.9 um) = 22.29
% Medium sand (250 - 500 um) = .08
% Establishing frequency = 0.08

Notes:  

35-1-E - Average, Monday, August 17, 2009 12:58:42 PM
Grain-Size Analysis Report

Sample: 36-1-A - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Katy
Measured: Friday, August 14, 2009 9:18:54 AM

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<th>Particle RI:</th>
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<th>Obscuration:</th>
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<tbody>
<tr>
<td>Fraunhofer</td>
<td>Water</td>
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<td>0</td>
<td>22.70</td>
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<tr>
<td>Dispersant RI:</td>
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<td>1.330</td>
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</table>

\[
\begin{align*}
&D[4,3] = 46.87\text{um} = 4.42\text{phi} \\
&D[v,0.5] = 13.17\text{um} = 6.25\text{phi} \\
&D[v,0.05] = 9.39\text{um} = 4.66\text{phi} \\
&D[v,0.16] = 2.35\text{um} = 8.73\text{phi} \\
&D[v,0.043] = 1.95\text{um} = 9.98\text{phi} \\
&D[v,0.020] = 1.38\text{um} = 8.73\text{phi} \\
\end{align*}
\]

Inclusive SD (Sorting Coeff.) = 1.95 phi (Poorly Sorted)
Inclusive Kurtosis = 0.89 phi (Platykurtic)
Inclusive Mean = 6.55 phi (Silt)

### USGS

- **% Clay (0-2 um)**: 13.58
- **% Fine Silt (2-3.9 um)**: 10.55

\[
\begin{align*}
&d(0.1) \ : 1.542 \ \text{um} \\
&d(0.5) \ : 13.166 \\
&d(0.9) \ : 50.994 \\
\end{align*}
\]

### Wentworth

- **% Clay (0-3.9 um)**: 24.13
- **% Silt (3.91-31 um)**: 52.63
- **% Coarse Silt (31 - 62.5 um)**: 16.64
- **% Very Fine sand (62.5 - 125 um)**: 3.6
- **% Fine sand (125-250 um)**: 0
- **% Medium sand (250-500 um)**: 0.34
- **% Coarse sand (500-1000 um)**: 1.41
- **% Very Coarse sand (1000 - 2000 um)**: 1.25

Notes:

- **Obscuration**: 22.70
- **Kurtosis**: 48.63
- **Skewness**: 6.73
- **Mean**: 6.55 phi (Silt)
- **Inclusive SD**: 1.95 phi (Poorly Sorted)
- **Inclusive Kurtosis**: 0.89 phi (Platykurtic)
- **Inclusive Mean**: 6.55 phi (Silt)

---

File name: DAMOS.mea
Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
Record Number: 872
**Grain-Size Analysis Report**

**Sample:** 36-1-B - Average  
**Source:** DAMOS  
**Cruise:** DAMOS  
**SOP Name:** DAMOS  
**Measured by:** Katy  
**Measured:** Friday, August 14, 2009 9:23:42 AM

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<th>Absorption:</th>
<th>0</th>
<th>Obscuration:</th>
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<tbody>
<tr>
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<td>Water</td>
<td>Dispersant RI:</td>
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</tr>
</tbody>
</table>

- \[D[4.3] = 44.29\text{um} = 4.5\phi\]
- \[D(v,0.5] = 13.05\text{um} = 6.26\phi\]
- \[Kurtosis = 54.31\]
- \[Skewness = 7.16\]
- \[Standard Deviation = 172.61 \text{um} = 2.53\phi\]

**Inclusive SD (Sorting Coeff.) = 1.93\phi (Poorly Sorted)**  
**Inclusive Skewness = -0.21 (Coarse Skewed)**  
**Inclusive Mean = 6.55\phi (Silt)**

**USGS**

<table>
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<tr>
<th>%</th>
<th>0.01</th>
<th>0.1</th>
<th>1</th>
<th>10</th>
<th>100</th>
<th>1000</th>
<th>3000</th>
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</tr>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>Coarse Silt (31 - 62.5 um)</td>
<td>16.78</td>
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</tr>
<tr>
<td>Very Fine sand (62.5 - 125 um)</td>
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<tr>
<td>Fine sand (125-250 um)</td>
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<td></td>
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<tr>
<td>Medium sand (250-500 um)</td>
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<td></td>
</tr>
<tr>
<td>Coarse sand (500-1000 um)</td>
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<td></td>
</tr>
<tr>
<td>Very Coarse sand (1000 - 2000 um)</td>
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**Wentworth**

<table>
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<th>10</th>
<th>100</th>
<th>1000</th>
<th>3000</th>
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<tbody>
<tr>
<td>Clay (0-3.9 um)</td>
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<td></td>
</tr>
<tr>
<td>Silt (3.91-31 um)</td>
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<td></td>
</tr>
<tr>
<td>Coarse Silt (31 - 62.5 um)</td>
<td>16.78</td>
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<td></td>
</tr>
<tr>
<td>Very Fine sand (62.5 - 125 um)</td>
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</tr>
<tr>
<td>Fine sand (125-250 um)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium sand (250-500 um)</td>
<td>0.12</td>
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<td></td>
</tr>
<tr>
<td>Coarse sand (500-1000 um)</td>
<td>1.09</td>
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</tr>
<tr>
<td>Very Coarse sand (1000 - 2000 um)</td>
<td>1.27</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Notes:**

- Inclusive Kurtosis = .89\phi (Platykurtic)
- Inclusive Mean = 6.55 Phi (Silt)
- Inclusive SD (Sorting Coeff.) = 1.93 Phi (Poorly Sorted)
- Inclusive Skewness = -0.21 (Coarse Skewed)
- Inclusive Mean = 6.55 Phi (Silt)

---

**Malvern Instruments Ltd.**  
**Malvern, UK**  
**Mastersizer 2000 Ver. 5.22**  
**Serial Number : MAL101534**  
**File name: DAMOS.mea**  
**Record Number: 876**
Grain-Size Analysis Report

Sample: 36-1-C - Average
Source: DAMOS
Cruse: DAMOS
SOP Name: DAMOS
Measured by: Katy
Measured: Friday, August 14, 2009 9:28:17 AM

<table>
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<tr>
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<th>Dispersant Name</th>
<th>Particle RI</th>
<th>Absorption</th>
<th>Obscuration</th>
</tr>
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<tbody>
<tr>
<td>Fraunhofer</td>
<td>Water</td>
<td>0.000</td>
<td>0</td>
<td>18.12</td>
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<tr>
<td></td>
<td></td>
<td>1.330</td>
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D[4,3] = 42.11um = 4.57phi
D[v,0.5] = 13.68um = 6.19phi
D[v,0.05] = 1um = 9.96phi
D[v,0.16] = 2.42um = 8.69phi

Kurtosis = 60.31
Skewness = 7.49
Standard Deviation = 159.89 um = 2.64phi

Inclusive SD (Sorting Coeff.) = 1.94 phi (Poorly Sorted)
Inclusive Kurtosis = .89 phi (Platykurtic)
Inclusive Mean = 6.51 phi (Silt)

USGS
% Clay (0-2 um) = 13.25
% Fine Silt (2-3.9 um) = 10.31
% Clay (0-3.9 um) = 23.55
% Silt (3.91-31 um) = 52.55
% Coarse Silt (31 - 62.5 um) = 17.51
% Very Fine sand (62.5 - 125 um) = 4.08
% Fine sand (125-250 um) = 0
% Medium sand (250-500 um) = .17
% Coarse sand (500-1000 um) = 1.07
% Very Coarse sand (1000 - 2000 um) = 1.07

Wentworth
0.01 0.1 1 10 100 1000 3000

Notes:
Grain-Size Analysis Report

Sample: 36-1-D - Average  
Source:  
Cruiise: DAMOS  
Measured by: Katy  
Measured: Friday, August 14, 2009 9:32:50 AM

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Fraunhofer</th>
<th>Dispersant Name:</th>
<th>Water</th>
<th>Particle RI:</th>
<th>0.000</th>
<th>Absorption:</th>
<th>0</th>
<th>Obscuration:</th>
<th>21.88</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispersant RI:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D[4,3] = 45.58um = 4.46phi</td>
<td>D[v,0.5] = 11.54um = 6.44phi</td>
<td>Kurtosis = 47.15</td>
<td>Skewness = 6.63</td>
<td>Standard Deviation = 174.57 um = 2.52phi</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D[v,0.05] = .36um = 10.03phi</td>
<td>D[v,0.84] = 36.22um = 4.79phi</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D[v,0.16] = 2.19um = 8.84phi</td>
<td>D[v,0.95] = 67.61um = 3.89phi</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Inclusive SD (Sorting Coeff.) = 1.94 phi (Poorly Sorted)  
Inclusive Skewness = -0.18 (Coarse Skewed)  
Inclusive Kurtosis = .88 phi (Platykurtic)

USGS
% Clay (0-2 um) = 14.56  
% Fine Silt (2-3.9 um) = 11.53  
% Silt (3.91-31 um) = 53.57  
% Coarse Silt (31 - 62.5 um) = 14.58  
% Very Fine sand (62.5 - 125 um) = 2.64

Wentworth
% Fine sand (125-250 um) = 0  
% Medium sand (250-500 um) = .38  
% Coarse sand (500-1000 um) = 1.51  
% Very Coarse sand (1000 - 2000 um) = 1.23

---36-1-D - Average, Friday, August 14, 2009 9:32:50 AM---

Notes:

Malvern Instruments Ltd.  
Malvern, UK  
Mastersizer 2000 Ver. 5.22  
Serial Number : MAL101534  
File name: DAMOS.mea  
Record Number: 884
Grain-Size Analysis Report

Sample: 36-1-E - Average
Source: USGS
Cruise: DAMOS

**Dispersant Name:** Fraunhofer
**Dispersant RI:** 0.000
**Absorption:** 0
**Oscuation:** 19.19
**Inclusive SD (Sorting Coeff.) = 1.95 phi (Poorly Sorted)**
**Inclusive Kurtosis = .88 phi (Platykurtic)**
**Inclusive Mean = 6.65 phi (Silt)**

**USGS**
- % Clay (0-2 um) = 14.19
- % Fine Silt (2-3.9 um) = 11.57
- % Medium sand (250-500 um) = .35
- % Coarse sand (500-1000 um) = 1.32
- % Very Coarse sand (1000-2000 um) = .98

**Wentworth**
- % Clay (0-3.9 um) = 25.76
- % Silt (3.91-31 um) = 52.98
- % Coarse Silt (31-62.5 um) = 15.05
- % Very Fine sand (62.5-125 um) = 3.53
- % Fine sand (125-250 um) = .02

**% In Inclusive SD = 1.95 phi (Poorly Sorted)**
**Inclusive Kurtosis = .88 phi (Platykurtic)**
**Inclusive Mean = 6.65 phi (Silt)**

---

**Notes:**

**Malvern Instruments Ltd.**
Malvern, UK

**Mastersizer 2000 Ver. 5.22**
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 888

---

**36-1-E - Average, Friday, August 14, 2009 9:37:25 AM**
Grain-Size Analysis Report

Sample: 36-1-F - Average
Source: USGS
Cruise: DAMOS

SOP Name: DAMOS
Measured by: Katy
Measured: Friday, August 14, 2009 9:41:58 AM

Particle Name: Fraunhofer
Dispersant Name: Water

Dispersant RI: 0.000
Absorption: 0
Obscuration: 18.47

% Coarse Silt (31 - 62.5 um) = 15.49
% Very Fine sand (62.5 - 125 um) = 0.02
% Fine Silt (2-3.9 um) = 11.33
% Silt (3.91-31 um) = 53.17
% Very Fine sand (62.5 - 125 um) = 3.56
% Inclusive SD (Sorting Coeff.) = 1.94 phi (Poorly Sorted)
Inclusive Kurtosis = .88 phi (Platykurtic)
Inclusive Mean = 6.64 phi (Silt)

Inclusive Skewness = -0.18 (Coarse Skewed)

Inclusive SD (Sorting Coeff.) = 1.94 phi (Poorly Sorted)
Inclusive Kurtosis = .88 phi (Platykurtic)
Inclusive Mean = 6.64 phi (Silt)

USGS
% Clay (0-2 um) = 14.09
% Fine Silt (2-3.9 um) = 11.33
% Silt (3.91-31 um) = 53.17
% Coarse Silt (31 - 62.5 um) = 15.49
% Very Fine sand (62.5 - 125 um) = 3.56
% Clay (0-3.9 um) = 25.43
% Silt (3.91-31 um) = 53.17
% Coarse Silt (31 - 62.5 um) = 15.49
% Very Fine sand (62.5 - 125 um) = 3.56
% Inclusive SD (Sorting Coeff.) = 1.94 phi (Poorly Sorted)
Inclusive Kurtosis = .88 phi (Platykurtic)
Inclusive Mean = 6.64 phi (Silt)

D[4,3] = 37.92um = 4.72phi
D[4,0.5] = 11.95um = 6.39phi
D[4,0.16] = 2.26um = 8.79phi
D[4,0.05] = .98um = 10phi
D[4,0.1] = 1.50um = 8phi

Kurtosis = 68.03
Skewness = 7.84
Standard Deviation = 142.41 um = 2.81phi

Obscuration: 18.47

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 892
Grain-Size Analysis Report

Sample: 37-1-A - Average
Source: DAMOS
Cruise: DAMOS
SOP Name: DAMOS
Measured by: Administrator
Measured:
Wednesday, August 12, 2009
12:17:35 PM

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Fraunhofer</th>
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</thead>
<tbody>
<tr>
<td>Particle RI:</td>
<td>0.000</td>
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<tr>
<td>Dispersant Name:</td>
<td>Water</td>
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<tr>
<td>Dispersant RI:</td>
<td>1.330</td>
</tr>
<tr>
<td>Absorption:</td>
<td>0</td>
</tr>
<tr>
<td>Obscuration:</td>
<td>18.04</td>
</tr>
</tbody>
</table>

D[4,3] = 67.7um = 3.88phi
D[v,0.5] = 15.34um = 6.03phi
Kurtosis = 26.83
Inclusive SD (Sorting Coeff.) = 2.42 phi (Very Poorly Sorted)
Inclusive Skewness = 0 (Near Symmetrical)
Inclusive Kurtosis = 1.16 phi (Leptokurtic)

Inclusive Mean = 6.19 phi (Silt)

USGS
% Clay (0-2 um) = 11.81
% Fine Silt (2-3.9 um) = 9.79
% Clay (0-3.9 um) = 21.61
% Silt (3.91-31 um) = 47.5
% Coarse Silt (31 - 62.5 um) = 15.09
% Very Fine Silt (2-3.9 um) = 9.79
% Coarse Sand (500-1000 um) = 2.97
% Very Coarse Sand (1000 - 2000 um) = .84

Wentworth
% Fine sand (125-250 um) = 2.52
% Medium sand (250-500 um) = 3.61
% Coarse sand (500-1000 um) = 2.97
% Very Fine sand (62.5 - 125 um) = 5.86
% Very Fine sand (62.5 - 125 um) = 5.86

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
Record Number: 616
File name: DAMOS.mea
Grain-Size Analysis Report

Sample: 37-1-B - Average
Source: DAMOS
Cruise: DAMOS

<table>
<thead>
<tr>
<th>Particle Size Distribution</th>
<th>Volume (%)</th>
<th>Particle Size (um)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.01</td>
<td>0.1</td>
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<tr>
<td></td>
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<td></td>
<td>3</td>
<td>1000</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>3000</td>
</tr>
</tbody>
</table>

Notes:

Notes:

- Size Hi phi um Size Lo phi um % In % Below
- Size Hi phi um Size Lo phi um % In % Below

-1 (2000.00) -0.5 (1414.21) 0.17 100 8.0 (3.90) 8.5 (2.76) 5.22 21.12
-0.5 (1414.21) 0.0 (1000.00) 0.45 99.83 8.5 (2.76) 9.0 (1.95) 4.65 15.91
0.0 (1000.00) 0.5 (707.10) 0.65 99.38 9.0 (1.95) 9.5 (1.38) 3.99 11.26
0.5 (707.10) 1.0 (500.00) 0.69 98.73 9.5 (1.38) 10.0 (0.98) 3.18 7.27
1.0 (500.00) 1.5 (353.55) 0.53 98.04 10.0 (0.98) 10.5 (0.69) 2.23 4.09
1.5 (353.55) 2.0 (250.00) 0.25 97.51 10.5 (0.69) 11.0 (0.49) 1.38 1.86
2.0 (250.00) 2.5 (176.78) 0.1 97.26 11.0 (0.49) 11.5 (0.35) 0.52 0.56
2.5 (176.78) 3.0 (125.00) 0.5 97.16 11.5 (0.35) 12.0 (0.24) 0.05 0.05
3.0 (125.00) 3.5 (88.39) 2.1 96.66 12.0 (0.24) 12.5 (0.17) 0 0
3.5 (88.39) 4.0 (62.50) 5 94.56 12.5 (0.17) 13.0 (0.12) 0 0
4.0 (62.50) 4.5 (44.19) 8.28 89.56 13.0 (0.12) 13.5 (0.086) 0 0
4.5 (44.19) 5.0 (31.25) 10.52 81.27 13.5 (0.086) 14.0 (0.061) 0 0
5.0 (31.25) 5.5 (22.10) 10.96 70.75 14.0 (0.061) 14.5 (0.043) 0 0
5.5 (22.10) 6.0 (15.63) 10.08 59.79 14.5 (0.043) 15.0 (0.030) 0 0
6.0 (15.63) 6.5 (11.05) 8.75 49.71 15.0 (0.030) 15.5 (0.020) 0 0
6.5 (11.05) 7.0 (7.81) 7.51 40.96
7.0 (7.81) 7.5 (5.52) 6.53 33.45
7.5 (5.52) 8.0 (3.90) 5.8 26.92

Notes:
Grain-Size Analysis Report

Sample: 37-1-C - Average
Source: DAMOS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water

<table>
<thead>
<tr>
<th>Size Hi (um)</th>
<th>Size Lo (um)</th>
<th>Inclusive SD (%)</th>
<th>Inclusive Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.001</td>
<td>0.01</td>
<td>0.00</td>
<td>.92 phi (Mesokurtic)</td>
</tr>
<tr>
<td>0.1</td>
<td>0.5</td>
<td>1.33</td>
<td>Poorly Sorted</td>
</tr>
<tr>
<td>1.0</td>
<td>1.6</td>
<td>6.31</td>
<td>Silt</td>
</tr>
<tr>
<td>2.0</td>
<td>2.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.0</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.0</td>
<td>4.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.0</td>
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</tr>
<tr>
<td>6.0</td>
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<td></td>
</tr>
<tr>
<td>7.0</td>
<td>7.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.0</td>
<td>8.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
- d (0.1) : 1.738 um
- d (0.5) : 15.602 um
- d (0.9) : 60.288 um

Malvern Instruments Ltd.
Malvern, UK

Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
File name: DAMOS.mea
Record Number: 624
Grain-Size Analysis Report

Sample: 37-1-D - Average
Source: DAMOS
Cruise: DAMOS

Particle Name: Fraunhofer
Dispersant Name: Water
Particle RI: 0.000
Dispersant RI: 1.330
Absorption: 0
Obscuration: 8.76

Inclusive SD (Sorting Coeff.) = 1.89 phi (Poorly Sorted)
Inclusive Kurtosis = .9 phi (Platykurtic)
Inclusive Mean = 6.4 phi (Silt)

USGS
% Clay (0-2 um) = 11.86
% Fine Silt (2-3.9 um) = 9.77

Wentworth
% Clay (0-3.9 um) = 21.63
% Silt (3.91-31 um) = 52.77
% Coarse Silt (31 - 62.5 um) = 19.47
% Very Fine sand (62.5 - 125 um) = 5.56
% Fine sand (125-250 um) = .16
% Medium sand (250-500 um) = .06
% Coarse sand (500-1000 um) = .33
% Very Coarse sand (1000 - 2000 um) = .02

---

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
Record Number: 628

File name: DAMOS.mea
Grain-Size Analysis Report

Sample: 37-1-E - Average
Source: DAMOS
Cruise: DAMOS

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Fraunhofer</th>
<th>Particle RI: 0.000</th>
<th>Absorption: 0</th>
<th>Obscuration: 16.25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispersant Name:</td>
<td>Water</td>
<td>Dispersant RI: 1.330</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ D[4,3] = 37.79 \text{um} = 4.73 \phi \]
\[ D[v,0.5] = 16.36 \text{um} = 5.93 \phi \]
\[ D[v,0.16] = 88.07 \text{um} = 3.51 \phi \]

Inclusive SD (Sorting Coeff.) = 2.04 \phi (Very Poorly Sorted)
Inclusive Skewness = -0.23 (Coarse Skewed)
Inclusive Kurtosis = 0.87 \phi (Platykurtic)

USGS:
- % Clay (0-2 \text{um}) = 12.22
- % Fine Silt (2-3.9 \text{um}) = 9.6

Wentworth:
- % Clay (0-3.9 \text{um}) = 21.81
- % Silt (3.91-31 \text{um}) = 46.64
- % Coarse Silt (31 - 62.5 \text{um}) = 20.41
- % Very Fine sand (62.5 - 125 \text{um}) = 8.99
- % Fine sand (125-250 \text{um}) = 0.66
- % Medium sand (250-500 \text{um}) = 0.24
- % Coarse sand (500-1000 \text{um}) = 0.74
- % Very Coarse sand (1000 - 2000 \text{um}) = 0.5

Notes:
- 37-1-E - Average, Wednesday, August 12, 2009 12:36:17 PM

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number : MAL101534
Record Number: 632
File name: DAMOS.mea
Grain-Size Analysis Report

Sample: 37-1-F - Average
Source: DAMOS
Cruise: DAMOS

<table>
<thead>
<tr>
<th>Particle Name:</th>
<th>Fraunhofer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispersant Name:</td>
<td>Water</td>
</tr>
<tr>
<td>Particle RI:</td>
<td>0.000</td>
</tr>
<tr>
<td>Dispersant RI:</td>
<td>1.330</td>
</tr>
<tr>
<td>Absorption:</td>
<td>0</td>
</tr>
<tr>
<td>Obscuration:</td>
<td>15.58</td>
</tr>
</tbody>
</table>

D[4,3] = 35.29µm = 4.82phi
D[v,0.5] = 16.58um = 5.91phi
D[v,0.05] = 1.04um = 9.89phi
D[v,0.16] = 2.65um = 8.56phi

Inclusive SD (Sorting Coeff.) = 2.05 phi (Very Poorly Sorted)
Inclusive Skewness = -0.24 (Coarse Skewed)
Inclusive Kurtosis = .87 phi (Platykurtic)

USGS
% Clay (0-2 um) = 12.18
% Fine Silt (2-3.9 um) = 9.57

Wentworth
% Clay (0-3.9 um) = 21.75
% Silt (3.91-31 um) = 46.29
% Coarse Silt (31 - 62.5 um) = 20.58
% Very Fine sand (62.5 - 125 um) = 9.29
% Medium sand (250-500 um) = .3
% Fine sand (125-250 um) = .72
% Coarse sand (500-1000 um) = .81
% Very Coarse sand (1000 - 2000 um) = .27

Notes:

---

37-1-F - Average, Wednesday, August 12, 2009 12:41:11 PM
## Grain-Size Analysis Report

**Sample:** QAS30223  
**Source:** Factory = Paris  
**Cruise:**  
**SOP Name:** QAS2002  
**Measured by:** Katy  
**Measured:** Monday, August 17, 2009 3:07:51 PM

### Particle Name: Glass beads (typical)
- **Dispersant Name:** Water
- **Particle RI:** 1.520  
- **Dispersant RI:** 1.330  
- **Absorption:** 0  
- **Obscuration:** 26.30

### Particle Size Distribution

<table>
<thead>
<tr>
<th>Size Hi</th>
<th>Size Lo</th>
<th>% In</th>
<th>% Below</th>
</tr>
</thead>
<tbody>
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<td>phi um</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>(2000.00)</td>
<td>-0.5</td>
<td>(1414.21)</td>
</tr>
<tr>
<td>-0.5</td>
<td>(1414.21)</td>
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<td>(1000.00)</td>
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<tr>
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<td>(1000.00)</td>
<td>0.5</td>
<td>(707.10)</td>
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<tr>
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<td>(707.10)</td>
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<td>(500.00)</td>
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<td>(500.00)</td>
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<td>(353.55)</td>
</tr>
<tr>
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<td>(353.55)</td>
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<td>(176.78)</td>
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<td>(125.00)</td>
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<td>(125.00)</td>
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<td>(62.50)</td>
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<td>(44.19)</td>
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<td>(22.10)</td>
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<td>(15.63)</td>
<td>6.5</td>
<td>(11.05)</td>
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<td>(11.05)</td>
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<td>(7.81)</td>
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<td>(7.81)</td>
<td>7.5</td>
<td>(5.52)</td>
</tr>
<tr>
<td>7.5</td>
<td>(5.52)</td>
<td>8.0</td>
<td>(3.90)</td>
</tr>
</tbody>
</table>

**Notes:**

- **D(0.1) = 29.083 um**  
  - **D(0.5) = 48.553um**  
  - **D(0.9) = 80.724um**

- **Skewness = 0** (Near Symmetrical)
- **Kurtosis = .71**
- **Inclusive Kurtosis = .95 phi (Mesokurtic)**
- **Inclusive Mean = 4.37 phi (Silt)**
- **Inclusive Standard Deviation = 20.6 um = 5.6phi**
- **D(4,3) = 52.27um = 4.26phi**
- **D(0.05) = 25.54um = 5.29phi**
- **D(0.16) = 32.45um = 4.95phi**

**Source:** USGS  
**Dispersant Name:** QAS30223  
**Particle Name:** Monday, August 17, 2009 3:07:51 PM

- **% Fine Silt (2-3.9 um) = 0**  
- **% Clay (0-2 um) = 0**  
- **% Coarse Silt (31 - 62.5 um) = 59.88**  
- **% Very Coarse sand (1000 - 2000 um) = 0**  
- **% Very Fine sand (62.5 - 125 um) = 26.6**  
- **% Silt (3.91-31 um) = 13.29**  
- **% Coarse sand (500-1000 um) = 0**  
- **% Medium sand (250-500 um) = 0**  
- **% Fine sand (125-250 um) = 0.22**  
- **% Clay (0-3.9 um) = 0**  
- **% Coarse sand (100-250 um) = 0**  
- **% Very Fine sand (62.5 - 125 um) = 26.6**

- **Dispersant RI:** 1.520
- **Particle RI:** 1.330
- **Absorption:** 0
- **Obscuration:** 26.30

**Notes:**

- **Inclusive Kurtosis = .95 phi (Mesokurtic)**
- **Inclusive Skewness = 0** (Near Symmetrical)
- **Inclusive Mean = 4.37 phi (Silt)**
Grain-Size Analysis Report

Sample: QAS30247
Source: Factory = Paris
Cruise: QAS30247, Monday, August 17, 2009 2:42:08 PM

Particle Name: Glass beads (typical)
Dispersant Name: Water
Particle RI: 1.520
Dispersant RI: 1.330
Absorption: 0

D[4,3] = 52.14um = 4.26phi
D[v,0.05] = 25.48um = 5.29phi
D[v,0.16] = 32.38um = 4.95phi

Inclusive Kurtosis = 0.95 phi (Mesokurtic)
Inclusive Skewness = 0 phi (Near Symmetrical)
Inclusive Mean = 4.37 phi (Silt)

USGS
% Clay (0-2 um) = 0
% Fine Silt (2-3.9 um) = 0
% Coarse Silt (31 - 62.5 um) = 59.97
% Very Fine sand (62.5 - 125 um) = 26.41

Wentworth
% Fine sand (125-250 um) = 0.21
% Medium sand (250-500 um) = 0
% Coarse sand (500-1000 um) = 0
% Very Coarse sand (1000-2000 um) = 0

Notes:

Malvern Instruments Ltd.
Malvern, UK
Mastersizer 2000 Ver. 5.22
Serial Number: MAL101534
File name: DAMOS.mea
Record Number: 1178

QAS30247, Monday, August 17, 2009 2:42:08 PM
QAS30247, Monday, August 17, 2009 2:43:27 PM
QAS30247, Monday, August 17, 2009 2:42:47 PM
Grain-Size Analysis Report

Sample: QAS30271
Source: Factory = Paris
Cruise:

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<td>1.330</td>
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D[4,3] = 51.93µm = 4.27phi
D[v,0.5] = 48.26µm = 4.37phi
D[v,0.05] = 25.42µm = 5.3phi
D[v,0.16] = 32.28µm = 4.95phi

Inclusive Kurtosis = .95 phi (Mesokurtic)
Inclusive SD (Sorting Coeff.) = .57 phi (Moderately Well Sorted)
Inclusive Mean = 4.37 phi (Silt)

% Fine Silt (2-3.9 um) = 0
% Clay (0-2 um) = 0

USGS Wentworth
% Clay (0-2 um) = 0
% Fine Silt (2-3.9 um) = 0
% Silt (3.91-31 um) = 13.58
% Coarse Silt (31 - 62.5 um) = 60.13
% Very Fine sand (62.5 - 125 um) = 26.1
% Fine sand (125-250 um) = .19
% Medium sand (250-500 um) = 0
% Coarse sand (500-1000 um) = 0
% Very Coarse sand (1000 - 2000 um) = 0

Notes:

-1 (2000.00) -0.5 (1414.21) 0 100
-0.5 (1414.21) 0.0 (1000.00) 0 100
0.0 (1000.00) 0.5 (707.10) 0 100
0.5 (707.10) 1.0 (500.00) 0 100
1.0 (500.00) 1.5 (353.55) 0 100
1.5 (353.55) 2.0 (250.00) 0 100
2.0 (250.00) 2.5 (176.78) 0 100
2.5 (176.78) 3.0 (125.00) 0.19 100
3.0 (125.00) 3.5 (88.39) 5.78 99.81
3.5 (88.39) 4.0 (62.50) 20.33 94.04
4.0 (62.50) 4.5 (44.19) 32.18 73.71
4.5 (44.19) 5.0 (31.25) 27.48 41.53
5.0 (31.25) 5.5 (22.10) 12.18 14.04
5.5 (22.10) 6.0 (15.63) 1.86 1.86
6.0 (15.63) 6.5 (11.05) 0 0
6.5 (11.05) 7.0 (7.81) 0 0
7.0 (7.81) 7.5 (5.52) 0 0
7.5 (5.52) 8.0 (3.90) 0 0
8.0 (3.90) 8.5 (2.76) 0 0
8.5 (2.76) 9.0 (1.95) 0 0
9.0 (1.95) 9.5 (1.38) 0 0
9.5 (1.38) 10.0 (0.98) 0 0
10.0 (0.98) 10.5 (0.69) 0 0
10.5 (0.69) 11.0 (0.49) 0 0
11.0 (0.49) 11.5 (0.35) 0 0
11.5 (0.35) 12.0 (0.24) 0 0
12.0 (0.24) 12.5 (0.17) 0 0
12.5 (0.17) 13.0 (0.12) 0 0
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13.5 (0.086) 14.0 (0.061) 0 0
14.0 (0.061) 14.5 (0.043) 0 0
14.5 (0.043) 15.0 (0.030) 0 0
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Notes:

- Measured by: Katy
- Measured: Monday, August 17, 2009 2:55:38 PM
Appendix F

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Samples collected: July 14, 2009
Appendix G
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Appendix I

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QC- Duplicate lab sample for quality control
Appendix L

Consolidation Data
CONSOLIDATED UNDRAINED TRIAXIAL TEST by ASTM D4767

User Spec.
- $c' = 0$ psf
- $\phi' = 30.0$
- $\tan \phi' = 0.58$

Values for cohesion and friction angle determined from best-fit straight line to the data for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site-specific conditions.

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<thead>
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Project: MBDS
Location: Boston, MA
Project No.: GTX-9197
Boring No.: ---
Sample Type: tube
Description: Wet, dark gray silt
Remarks: System O

Phase calculations based on start and end of test.
* Saturation is set to 100% for phase calculations.
CONSOLIDATED UNDRained TRIAXIAL TEST by ASTM D4767

User Spec.
c' = 0 psf
\phi' = 30.0
\tan \phi' = 0.58

Values for cohesion and friction angle determined from best-fit straight line to the data for the specific test conditions. Actual strength parameters may vary and should be determined by an engineer for site-specific conditions.

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Project: MBDS
Location: Boston, MA
Project No.: GTX-9197

Boring No.: ---
Sample Type: tube
Description: Wet, dark gray silt
Remarks: System 0
## CONSOLIDATION TEST DATA
### SUMMARY REPORT

### Graph
- **Vertical Stress (psf)** vs. **Strain (%)**
- Data points are plotted on the graph.

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<td>Height: 1.1 in</td>
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<td>GS: 2.95</td>
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### Additional Information
- **Water Content, %**: 128.41 / 42.54
- **Dry Unit Weight, pcf**: 37.13 / 81.68
- **Saturation, %**: 95.67 / 100.00
- **Void Ratio**: 3.96 / 1.26

### Details
- **Project**: MBDS
- **Location**: Boston, MA
- **Project No.**: GTX-9197
- **Boring No.**: ---
- **Sample No.**: 3-04
- **Test No.**: C-5
- **Test Date**: 08/18/09
- **Sample Type**: tube
- **Description**: Wet, dark gray silt
- **Remarks**: System E

---

*GeoTesting* express
A subsidiary of Geocomp Corporation

**Date**: 25-AUG-2009 12:56:07
CONSOLIDATION TEST DATA

Project: MBDS
Boring No.: ---
Sample No.: 3-04
Test No.: C-5

Location: Boston, MA
Tested By: md
Test Date: 08/18/09
Sample Type: tube

Project No.: GTX-9197
Checked By: jdt
Depth: ---
Elevation: ---

Soil Description: Wet, dark gray silt
Remarks: System E

Estimated Specific Gravity: 2.95
Initial Void Ratio: 3.96
Final Void Ratio: 1.26

Liquid Limit: ---
Plastic Limit: ---
Plasticity Index: ---

Initial Height: 1.10 in
Specimen Diameter: 1.91 in

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Note: Specific Gravity and Void Ratios are calculated assuming the degree of saturation equals 100% at the end of the test. Therefore, values may not represent actual values for the specimen.
### CONSOLIDATION TEST DATA

**Project:** MBDS  
**Location:** Boston, MA  
**Boring No.:** ---  
**Sample No.:** 3-04  
**Test No.:** C-5  
**Test Date:** 08/18/09  
**Sample Type:** tube  
**Checked By:** jdt  
**Depth:** ---  
**Elevation:** ---

**Soil Description:** Wet, dark gray silt

**Remarks:** System E

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<th>Log T50 Fitting (min)</th>
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CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 1 of 12
Stress: 10. psf

Project: MBDS
Location: Boston, MA
Project No.: GTX-9197
Boring No.: ---
Tested By: md
Checked By: jdt
Sample No.: 3-04
Test Date: 08/18/09
Depth: ---
Test No.: C-5
Sample Type: tube
Elevation: ---
Description: Wet, dark gray silt
Remarks: System E
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 2 of 12
Stress: 20. psf

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<td>Test No.: C-5</td>
<td>Sample Type: tube</td>
<td>Elevation: ---</td>
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<tr>
<td>Description: Wet, dark gray silt</td>
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<tr>
<td>Remarks: System E</td>
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Tue, 25-AUG-2009 12:56:37
CONSOLIDATION TEST DATA

TIME CURVES
Constant Load Step: 3 of 12
Stress: 40. psf

<table>
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<th>Project: MBDS</th>
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<td>Checked By: jdt</td>
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<td>Test Date: 08/18/09</td>
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<td>Description: Wet, dark gray silt</td>
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SQUARE ROOT of TIME, min

TIME, min

STRAIN, %
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 4 of 12
Stress: 80. psf

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<tr>
<td>Sample No.: 3-04</td>
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<td>Test No.: C-5</td>
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Tue, 25-AUG-2009 12:57:09
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 5 of 12
Stress: 160. psf

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<td>Sample No.:</td>
<td>Test Date: 08/18/09</td>
<td>Depth: ---</td>
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<td>Test No.: C-5</td>
<td>Sample Type: tube</td>
<td>Elevation: ---</td>
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<td>Description:</td>
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<td>Remarks:</td>
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CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 6 of 12
Stress: 320. psf

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<td>Test Date: 08/18/09</td>
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<tr>
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Tue, 25-AUG-2009 12:57:35
**CONSOLIDATION TEST DATA**

**TIME CURVES**

Constant Load Step: 7 of 12  
Stress: 640. psf

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<td>Checked By: jdt</td>
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<td>Test Date: 08/18/09</td>
<td>Depth: ---</td>
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<tr>
<td>Test No.: C-5</td>
<td>Sample Type: tube</td>
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<td>Description: Wet, dark gray silt</td>
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Tue, 25-AUG-2009 12:57:46
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 8 of 12
Stress: 1280. psf

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Project: MBDS
Location: Boston, MA
Project No.: GTX-9197

Boring No.: ----
Tested By: md
Checked By: jdt

Sample No.: 3-04
Test Date: 08/18/09
Depth: ----

Test No.: C-5
Sample Type: tube
Elevation: ----

Description: Wet, dark gray silt
Remarks: System E

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Tue, 25-AUG-2009 12:57:51
CONsolidation Test Data
Time Curves
Constant Load Step: 9 of 12
Stress: 2560. psf

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<td>Test No.:</td>
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tue, 25-aug-2009 12:57:57
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 10 of 12
Stress: 5120. psf

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<td>Test Date: 08/18/09</td>
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Tue, 25-AUG-2009 12:58:03
**CONSOLIDATION TEST DATA**

**TIME CURVES**

Constant Load Step: 11 of 12  
Stress: 10240 psf

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</tr>
<tr>
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<td>C-5</td>
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<td>Wet, dark gray silt</td>
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<tr>
<td>Remarks:</td>
<td>System E</td>
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**GeoTesting express**  
A subsidiary of Geocomp Corporation  

---

**Project No.: GTX-9197**  
**Tested By:** md  
**Checked By:** jdt  
**Depth:** ----  
**Elevation:** ----

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**NOTE:**  
**Date:** Tue, 25-AUG-2009 12:58:08
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 12 of 12
Stress: 20480 psf

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<td>Depth: ---</td>
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<tr>
<td>Test No.:</td>
<td>Sample Type: tube</td>
<td>Elevation: ---</td>
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<td>Remarks:</td>
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Tue, 25-AUG-2009 12:58:26
CONSOLIDATION TEST DATA
SUMMARY REPORT

Project: MBDS                      Location: Boston, MA                      Project No.: GTX-9197
Boring No.: ----                      Tested By: md                              Checked By: jdt
Sample No.: 5-04                      Test Date: 08/24/09                            Depth:
Test No.: C-6                          Sample Type: tube                           Elevation: ---
Description: Wet, dark gray silt
Remarks: System C

Thu, 03-SEP-2009 10:00:26
# Consolidation Test Data

**Summary Report**

## Graph

- **Strain, %** vs **Vertical Stress, psf**

## Table

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Before Test</th>
<th>After Test</th>
</tr>
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<tbody>
<tr>
<td>Overburden Pressure: ---</td>
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<td></td>
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<tr>
<td>Preconsolidation Pressure: ---</td>
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<td></td>
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<tr>
<td>Compression Index: ---</td>
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<td></td>
</tr>
<tr>
<td>Diameter: 2.5 in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height: 1 in</td>
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<td></td>
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<tr>
<td>LL: ---</td>
<td></td>
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</tr>
<tr>
<td>PL: ---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PI: ---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GS: 2.94</td>
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<td></td>
</tr>
<tr>
<td>Water Content, %</td>
<td>123.60</td>
<td>32.76</td>
</tr>
<tr>
<td>Dry Unit Weight, pcf</td>
<td>39.43</td>
<td>93.46</td>
</tr>
<tr>
<td>Saturation, %</td>
<td>99.44</td>
<td>100.00</td>
</tr>
<tr>
<td>Void Ratio</td>
<td>3.65</td>
<td>0.96</td>
</tr>
</tbody>
</table>

## Details

<table>
<thead>
<tr>
<th>Project: MBDS</th>
<th>Location: Boston, MA</th>
<th>Project No.: GTX-9197</th>
</tr>
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<tbody>
<tr>
<td>Boring No.: ---</td>
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<td>Checked By: jdt</td>
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<tr>
<td>Sample No.: 5-04</td>
<td>Test Date: 08/24/09</td>
<td>Depth:</td>
</tr>
<tr>
<td>Test No.: C-6</td>
<td>Sample Type: tube</td>
<td>Elevation: ---</td>
</tr>
</tbody>
</table>

**Description:** Wet, dark gray silt

**Remarks:** System C
CONSOLIDATION TEST DATA

Project: MBDS
Boring No.: ---
Sample No.: 5-04
Test No.: C-6

Location: Boston, MA
Tested By: md
Test Date: 08/24/09
Sample Type: tube

Soil Description: Wet, dark gray silt
Remarks: System C

Estimated Specific Gravity: 2.94
Initial Void Ratio: 3.65
Final Void Ratio: 0.96

Liquid Limit: ---
Plastic Limit: ---
Plasticity Index: ---

Initial Height: 1.00 in
Specimen Diameter: 2.50 in

<table>
<thead>
<tr>
<th>Container ID</th>
<th>Before Consolidation</th>
<th>After Consolidation</th>
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<tbody>
<tr>
<td></td>
<td>Trimmings</td>
<td>Specimen-Ring</td>
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<tr>
<td>Wt. Container + Wet Soil, gm</td>
<td>272.79</td>
<td>329.2</td>
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<tr>
<td>Wt. Container + Dry Soil, gm</td>
<td>128.93</td>
<td>266.4</td>
</tr>
<tr>
<td>Wt. Container, gm</td>
<td>8.49</td>
<td>215.6</td>
</tr>
<tr>
<td>Wt. Dry Soil, gm</td>
<td>120.44</td>
<td>50.805</td>
</tr>
<tr>
<td>Water Content, %</td>
<td>119.45</td>
<td>123.60</td>
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<tr>
<td>Void Ratio</td>
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<td>3.65</td>
</tr>
<tr>
<td>Degree of Saturation, %</td>
<td>---</td>
<td>99.44</td>
</tr>
<tr>
<td>Dry Unit Weight, pcf</td>
<td>---</td>
<td>39.429</td>
</tr>
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</table>

Note: Specific Gravity and Void Ratios are calculated assuming the degree of saturation equals 100% at the end of the test. Therefore, values may not represent actual values for the specimen.
# CONSOLIDATION TEST DATA

Project: MBDS  
Boring No.: ---  
Sample No.: 5-04  
Test No.: C-6  
Location: Boston, MA  
Tested By: md  
Test Date: 08/24/09  
Sample Type: tube  
Checked By: jdt  
Depth:  
Elevation: ---

Soil Description: Wet, dark gray silt  
Remarks: System C

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CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 1 of 12
Stress: 10. psf

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<tr>
<td>Sample No.: 5-04</td>
<td>Test Date: 08/24/09</td>
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<tr>
<td>Test No.: C-6</td>
<td>Sample Type: tube</td>
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<tr>
<td>Description: Wet, dark gray silt</td>
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<td>Remarks: System C</td>
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Thu, 03-SEP-2009 10:00:58
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 2 of 12
Stress: 20. psf

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Thu, 03-SEP-2009 10:01:37
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 3 of 12
Stress: 40. psf

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Thu, 03-SEP-2009 10:01:44
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 4 of 12
Stress: 80. psf

Project: MBDS
Location: Boston, MA
Tested By: md
Checked By: jdt
Sample No.: 5-04
Test Date: 08/24/09
Sample Type: tube
Description: Wet, dark gray silt
Remarks: System C
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 5 of 12
Stress: 160. psf

| Project: MBDS | Location: Boston, MA | Project No.: GTX-9197 |
| Boring No.: --- | Tested By: md | Checked By: jdt |
| Sample No.: 5-04 | Test Date: 08/24/09 | Depth: |
| Test No.: C-6 | Sample Type: tube | Elevation: --- |

Description: Wet, dark gray silt
Remarks: System C

Thu, 03-SEP-2009 10:02:25
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 6 of 12
Stress: 320. psf

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<td>Test No.: C-6</td>
<td>Sample Type: tube</td>
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Description: Wet, dark gray silt
Remarks: System C

Thu, 03-SEP-2009 10:02:04
**CONSOLIDATION TEST DATA**

**TIME CURVES**

Constant Load Step: 8 of 12
Stress: 1280. psf

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<th>Location: Boston, MA</th>
<th>Project No.: GTX-9197</th>
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</thead>
<tbody>
<tr>
<td>Boring No.:</td>
<td>Tested By: md</td>
<td>Checked By: jdt</td>
</tr>
<tr>
<td>Sample No.:</td>
<td>Test Date: 08/24/09</td>
<td>Depth:</td>
</tr>
<tr>
<td>Test No.:</td>
<td>Sample Type: tube</td>
<td>Elevation: ---</td>
</tr>
<tr>
<td>Description:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remarks:</td>
<td>System C</td>
<td></td>
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</table>

Thu, 03-SEP-2009 10:02:04
**CONSOLIDATION TEST DATA**

**TIME CURVES**

Constant Load Step: 9 of 12  
Stress: 2560. psf

<table>
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<tr>
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<tr>
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<td>Tested By: md</td>
<td>Checked By: jdt</td>
</tr>
<tr>
<td>Sample No.:</td>
<td>Test Date: 08/24/09</td>
<td>Depth:</td>
</tr>
<tr>
<td>Test No.: C-6</td>
<td>Sample Type: tube</td>
<td>Elevation: ---</td>
</tr>
</tbody>
</table>

Description: Wet, dark gray silt  
Remarks: System C

---

Thu, 03-SEP-2009 10:02:04
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 10 of 12
Stress: 5120. psf

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<td>Tested By: md</td>
<td>Checked By: jdt</td>
</tr>
<tr>
<td>Sample No.: 5-04</td>
<td>Test Date: 08/24/09</td>
<td>Depth:</td>
</tr>
<tr>
<td>Test No.: C-6</td>
<td>Sample Type: tube</td>
<td>Elevation: ---</td>
</tr>
<tr>
<td>Description: Wet, dark gray silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remarks: System C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thu, 03-SEP-2009 10:02:04
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 11 of 12
Stress: 10240 psf

Project: MBDS
Location: Boston, MA
Project No.: GTX-9197
Boring No.: ---
Tested By: md
Checked By: jdt
Sample No.: 5-04
Test Date: 08/24/09
Sample Type: tube
Depth:
Test No.: C-6
Elevation: ---
Description: Wet, dark gray silt
Remarks: System C
## CONSOLIDATION TEST DATA

### SUMMARY REPORT

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Before Test</th>
<th>After Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overburden Pressure:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preconsolidation Pressure:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compression Index:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diameter: 2.5 in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height: 1 in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LL: ---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PL: ---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pt: ---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GS: 2.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Content, %</td>
<td>98.59</td>
<td>32.43</td>
</tr>
<tr>
<td>Dry Unit Weight, pcf</td>
<td>46.65</td>
<td>92.26</td>
</tr>
<tr>
<td>Saturation, %</td>
<td>99.98</td>
<td>100.00</td>
</tr>
<tr>
<td>Void Ratio</td>
<td>2.80</td>
<td>0.92</td>
</tr>
</tbody>
</table>

---

**GeoTesting express**

*Mon, 24-AUG-2009 09:35:22*

- **Project:** MBDS
- **Location:** Boston, MA
- **Sample No.:** 8-02
- **Test No.:** C-1
- **Test Date:** 08/05/09
- **Sample Type:** tube
- **Description:** Wet, gray silt
- **Remarks:** System C
- **Project No.:** GTX-9197
- **Tested By:** md
- **Checked By:** jdt
- **Depth:** ---
- **Elevation:** ---
### CONSOLIDATION TEST DATA

**Project:** MEBS
**Boring No.:** ---
**Sample No.:** 9-02
**Test No.:** C-1

**Soil Description:** Wet, gray silt
**Remarks:** System C

**Estimated Specific Gravity:** 2.84
**Initial Void Ratio:** 2.80
**Final Void Ratio:** 0.92

**Location:** Boston, MA
**Tested By:** md
**Test Date:** 08/05/09
**Sample Type:** tube

**Project No.:** GTX-9197
**Checked By:** jdt
**Depth:** ---
**Elevation:** ---

**Liquid Limit:** ---
**Plastic Limit:** ---
**Plasticity Index:** ---

**Initial Height:** 1.00 in
**Specimen Diameter:** 2.50 in

<table>
<thead>
<tr>
<th>Container ID</th>
<th>Before Consolidation</th>
<th>After Consolidation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Trimmings</td>
<td>Specimen+Ring</td>
</tr>
<tr>
<td></td>
<td>4294</td>
<td>RING</td>
</tr>
<tr>
<td>Wt. Container + Wet Soil, gm</td>
<td>300.88</td>
<td>334.65</td>
</tr>
<tr>
<td>Wt. Container + Dry Soil, gm</td>
<td>158.39</td>
<td>275.4</td>
</tr>
<tr>
<td>Wt. Container, gm</td>
<td>8.28</td>
<td>215.29</td>
</tr>
<tr>
<td>Wt. Dry Soil, gm</td>
<td>150.11</td>
<td>60.105</td>
</tr>
<tr>
<td>Water Content, %</td>
<td>94.92</td>
<td>98.59</td>
</tr>
<tr>
<td>Void Ratio</td>
<td>---</td>
<td>2.80</td>
</tr>
<tr>
<td>Degree of Saturation, %</td>
<td>---</td>
<td>99.98</td>
</tr>
<tr>
<td>Dry Unit Weight,pcf</td>
<td>---</td>
<td>46.647</td>
</tr>
</tbody>
</table>

**Note:** Specific Gravity and Void Ratios are calculated assuming the degree of saturation equals 100% at the end of the test. Therefore, values may not represent actual values for the specimen.
## CONSOLIDATION TEST DATA

**Project:** MBDS  
**Boring No.:** ---  
**Sample No.:** 8-02  
**Test No.:** C-1  

**Location:** Boston, MA  
**Tested By:** md  
**Date:** 08/05/09  
**Sample Type:** tube  

**Soil Description:** Wet, gray silt  
**Remarks:** System C

<table>
<thead>
<tr>
<th>Applied Stress (psf)</th>
<th>Final Displacement (in)</th>
<th>Void Ratio</th>
<th>Strain at End (%)</th>
<th>TS0 Fitting</th>
<th>Coefficient of Consolidation (Avg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sq.Rt. min</td>
<td>Log in^2/sec</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Log in^2/sec</td>
<td>Log in^2/sec</td>
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<tr>
<td>1</td>
<td>10</td>
<td>0.01223</td>
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<td>1.22</td>
<td>94.1</td>
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<td>2</td>
<td>20</td>
<td>0.02126</td>
<td>2.718</td>
<td>2.13</td>
<td>32.3</td>
</tr>
<tr>
<td>3</td>
<td>40</td>
<td>0.03621</td>
<td>2.661</td>
<td>3.62</td>
<td>15.3</td>
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<td>4</td>
<td>80</td>
<td>0.06137</td>
<td>2.566</td>
<td>6.14</td>
<td>22.2</td>
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<tr>
<td>5</td>
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<td>0.0895</td>
<td>2.459</td>
<td>8.95</td>
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<td>6</td>
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<td>0.1463</td>
<td>2.243</td>
<td>14.63</td>
<td>23.0</td>
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<td>7</td>
<td>640</td>
<td>0.2134</td>
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<td>21.34</td>
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<td>8</td>
<td>1.28e+003</td>
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**Project No.:** GTX-9197  
**Checked By:** jdt  
**Depth:** ---  
**Elevation:** ---
## CONSOLIDATION TEST DATA

**TIME CURVES**

Constant Load Step: 1 of 12  
Stress: 10. psf

<table>
<thead>
<tr>
<th>Project: MBDS</th>
<th>Location: Boston, MA</th>
<th>Project No.: GTX-9197</th>
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<tbody>
<tr>
<td>Boring No.: 0</td>
<td>Tested By: md</td>
<td>Checked By: jdt</td>
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<tr>
<td>Sample No.: 8-02</td>
<td>Test Date: 08/05/09</td>
<td>Depth: 30</td>
</tr>
<tr>
<td>Test No.: C-1</td>
<td>Sample Type: tube</td>
<td>Elevation: 30</td>
</tr>
<tr>
<td>Description: Wet, gray silt</td>
<td>Remarks: System C</td>
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CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 2 of 12
Stress: 20. psf

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<tbody>
<tr>
<td>Boring No.: ---</td>
<td>Tested By: md</td>
<td>Checked By: jdt</td>
</tr>
<tr>
<td>Sample No.: 8-02</td>
<td>Test Date: 08/05/09</td>
<td>Depth: ---</td>
</tr>
<tr>
<td>Test No.: C-1</td>
<td>Sample Type: tube</td>
<td>Elevation: ---</td>
</tr>
<tr>
<td>Description: Wet, gray silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remarks: System C</td>
<td></td>
<td></td>
</tr>
</tbody>
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CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 3 of 12
Stress: 40. psf

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Project: MBDS
Boring No.: ---
Sample No.: 8-02
Test No.: C-1

Location: Boston, MA
Tested By: md
Test Date: 08/05/09
Sample Type: tube

Project No.: GTX-9197
Checked By: jdt
Depth: ---
Elevation: ---

Description: Wet, gray silt
Remarks: System C

Mon, 24-AUG-2009 09:36:11
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 4 of 12
Stress: 80. psf

<table>
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<td>Tested By: md</td>
<td>Checked By: jdt</td>
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<tr>
<td>Sample No.: 8-02</td>
<td>Test Date: 08/05/09</td>
<td>Depth: ---</td>
</tr>
<tr>
<td>Test No.: C-1</td>
<td>Sample Type: tube</td>
<td>Elevation: ---</td>
</tr>
<tr>
<td>Description: Wet, gray silt</td>
<td></td>
<td></td>
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<tr>
<td>Remarks: System C</td>
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Mon, 24-AUG-2009 09:36:23
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 5 of 12
Stress: 160. psf

<table>
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<th>Project No.: GTX-9197</th>
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<tbody>
<tr>
<td>Boring No.: ---</td>
<td>Tested By: md</td>
<td>Checked By: jdt</td>
</tr>
<tr>
<td>Sample No.: 8-02</td>
<td>Test Date: 08/05/09</td>
<td>Depth: ---</td>
</tr>
<tr>
<td>Test No.: C-1</td>
<td>Sample Type: tube</td>
<td>Elevation: ---</td>
</tr>
<tr>
<td>Description: Wet, gray silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remarks: System C</td>
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<td></td>
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Mon, 24-AUG-2009 09:36:38
CONsolidation Test Data

Time Curves

Constant Load Step: 7 of 12
Stress: 640. psf

---

Project: MBDS
Boring No.: ---
Sample No.: 8-02
Test No.: C-1
Description: Wet, gray silt
Remarks: System C

Location: Boston, MA
Tested By: md
Test Date: 08/05/09
Sample Type: tube
Elevation: ---

Project No.: GTX-9197
Checked By: jdt
Depth: ---

---

SQUARE ROOT of TIME, min

STRAIN, %

TIME, min
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 8 of 12
Stress: 1280. psf

<table>
<thead>
<tr>
<th>Project: MBDS</th>
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<td>Boring No.: ---</td>
<td>Tested By: md</td>
<td>Checked By: jdt</td>
</tr>
<tr>
<td>Sample No.: 8-02</td>
<td>Test Date: 08/05/09</td>
<td>Depth: ---</td>
</tr>
<tr>
<td>Test No.: C-1</td>
<td>Sample Type: tube</td>
<td>Elevation: ---</td>
</tr>
<tr>
<td>Description: Wet, gray silt</td>
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<td></td>
</tr>
<tr>
<td>Remarks: System C</td>
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<td></td>
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</table>
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 9 of 12
Stress: 2560. psf

<table>
<thead>
<tr>
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<th>Location: Boston, MA</th>
<th>Project No.: GTX-9197</th>
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</thead>
<tbody>
<tr>
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<td>Checked By: jdt</td>
</tr>
<tr>
<td>Sample No.:</td>
<td>Test Date: 08/05/09</td>
<td>Depth: ---</td>
</tr>
<tr>
<td>Test No.:</td>
<td>Sample Type: tube</td>
<td>Elevation: ---</td>
</tr>
<tr>
<td>Description:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remarks: System C</td>
<td></td>
<td></td>
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</table>

Mon, 24-AUG-2009 09:37:03
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 11 of 12
Stress: 10240 psf

<table>
<thead>
<tr>
<th>Project: MBDS</th>
<th>Location: Boston, MA</th>
<th>Project No.: GTX-9197</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boring No.: ---</td>
<td>Tested By: md</td>
<td>Checked By: jdt</td>
</tr>
<tr>
<td>Sample No.: 8-02</td>
<td>Test Date: 08/05/09</td>
<td>Depth: ---</td>
</tr>
<tr>
<td>Test No.: C-1</td>
<td>Sample Type: tube</td>
<td>Elevation: ---</td>
</tr>
<tr>
<td>Description: Wet, gray silt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remarks: System C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 12 of 12
Stress: 20480 psf

Project: MBDS
Boring No.: ---
Sample No.: 8-02
Test No.: C-1
Location: Boston, MA
 Tested By: md
 Test Date: 08/05/09
 Sample Type: tube
 Description: Wet, gray silt
 Remarks: System C
 Project No.: GTX-9197
 Checked By: jdt
 Depth: ---
 Elevation: ---
## CONSOLIDATION TEST DATA
### SUMMARY REPORT

### Graphical Representation
- **Y-axis:** Strain, %
- **X-axis:** Vertical Stress, psf

### Table
<table>
<thead>
<tr>
<th></th>
<th>Before Test</th>
<th>After Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overburden Pressure</td>
<td>---</td>
<td>122.34</td>
</tr>
<tr>
<td>Preconsolidation Pressure</td>
<td>---</td>
<td>39.79</td>
</tr>
<tr>
<td>Compression Index</td>
<td>---</td>
<td>99.95</td>
</tr>
<tr>
<td>Diameter: 2.5 in</td>
<td></td>
<td>3.55</td>
</tr>
<tr>
<td>Height: 1 in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LL: ---</td>
<td>PL: ---</td>
<td>PS: ---</td>
</tr>
</tbody>
</table>

### Additional Information
- **Project:** MBDS
- **Location:** Boston, MA
- **Project No.:** GTX-9197
- **Boring No.:** ---
- **Tested By:** md
- **Test Date:** 08/17/09
- **Sample No.:** 32-1
- **Test No.:** C-4
- **Sample Type:** tube
- **Description:** Wet, dark gray silt
- **Remarks:** System C

---

*GeoTesting press*

*A subsidiary of Geocomp Corporation*

*Tue, 25-AUG-2009 12:39:24*
CONSolidation Test Data

Project: MBDS
Boring No.: ---
Sample No.: 32-1
Test No.: C-4

Location: Boston, MA
Tested By: md
Test Date: 08/17/09
Sample Type: tube

Soil Description: Wet, dark gray silt
Remarks: System C

Estimated Specific Gravity: 2.90
Initial Void Ratio: 3.55
Final Void Ratio: 0.84

Liquid Limit: ---
Plastic Limit: ---
Plasticity Index: ---

<table>
<thead>
<tr>
<th>Container ID</th>
<th>Trimmings</th>
<th>Specimen+Ring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wt. Container + Wet Soil, gm</td>
<td>349.59</td>
<td>329.57</td>
</tr>
<tr>
<td>Wt. Container + Dry Soil, gm</td>
<td>176.66</td>
<td>266.85</td>
</tr>
<tr>
<td>Wt. Container, gm</td>
<td>8.16</td>
<td>215.59</td>
</tr>
<tr>
<td>Wt. Dry Soil, gm</td>
<td>168.5</td>
<td>51.264</td>
</tr>
<tr>
<td>Water Content, %</td>
<td>102.63</td>
<td>122.34</td>
</tr>
<tr>
<td>Void Ratio</td>
<td>---</td>
<td>3.55</td>
</tr>
<tr>
<td>Degree of Saturation, %</td>
<td>---</td>
<td>99.95</td>
</tr>
<tr>
<td>Dry Unit Weight,pcf</td>
<td>---</td>
<td>39.785</td>
</tr>
</tbody>
</table>

Before Consolidation

<table>
<thead>
<tr>
<th>Specimen+Ring</th>
<th>Trimmings</th>
</tr>
</thead>
<tbody>
<tr>
<td>3972</td>
<td>RING</td>
</tr>
<tr>
<td>281.8</td>
<td>75.67</td>
</tr>
<tr>
<td>266.85</td>
<td>60.51</td>
</tr>
<tr>
<td>215.59</td>
<td>8.51</td>
</tr>
<tr>
<td>51.264</td>
<td>52</td>
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<tr>
<td>122.34</td>
<td>29.15</td>
</tr>
<tr>
<td>3.55</td>
<td>---</td>
</tr>
<tr>
<td>99.95</td>
<td>---</td>
</tr>
<tr>
<td>39.785</td>
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</tr>
</tbody>
</table>

Project No.: GTX-9197
Checked By: jdt
Depth: ---
Elevation: ---

Initial Height: 1.00 in
Specimen Diameter: 2.50 in

Note: Specific Gravity and Void Ratios are calculated assuming the degree of saturation equals 100% at the end of the test. Therefore, values may not represent actual values for the specimen.
## CONSOLIDATION TEST DATA

**Project:** MBDS  
**Location:** Boston, MA  
**Boring No.:** ---  
**Sample No.:** 32-1  
**Test No.:** C-4  
**Test Date:** 08/17/09  
**Sample Type:** tube  
**Project No.:** GTX-9197  
**Checked By:** jdt  
**Depth:** ---  
**Elevation:** ---  

**Soil Description:** Wet, dark gray silt  
**Remarks:** System C  

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<tr>
<th>Applied Stress (psf)</th>
<th>Final Displacement (in)</th>
<th>Void Ratio</th>
<th>Strain at End (%)</th>
<th>T50 Fitting Sq.Rt.</th>
<th>Log</th>
<th>Coefficient of Consolidation in^2/sec</th>
<th>Log in^2/sec</th>
<th>Log Ave. in^2/sec</th>
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CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 2 of 12
Stress: 20. psf

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<td>Description: Wet, dark gray silt</td>
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Tue, 25-AUG-2009 12:41:57
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 3 of 12
Stress: 40. psf

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<td>Test No.:</td>
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Description: Wet, dark gray silt
Remarks: System C
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 4 of 12
Stress: 80. psf

Project: MBDS
Boring No.: ---
Sample No.: 32-1
Test No.: C-4
Description: Wet, dark gray silt
Remarks: System C

Location: Boston, MA
Tested By: md
Test Date: 08/17/09
Sample Type: tube
Depth: ---
Elevation: ---

Project No.: GITX-9197
Checked By: jdt

Tue, 25-AUG-2009 12:41:22
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 5 of 12
Stress: 160. psf

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a subsidiary of Geocomp Corporation

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Tue, 25-AUG-2009 12:39:28
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 6 of 12
Stress: 320. psf

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Tue, 25-AUG-2009 12:39:29
CONSOLIDATION TEST DATA

TIME CURVES
Constant Load Step: 7 of 12
Stress: 640. psf

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CONsolidation test data

Time curves
Constant load step: 9 of 12
Stress: 2560. psf

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<td>Sample No.:</td>
<td>Test Date: 08/17/09</td>
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Description: Wet, dark gray silt
Remarks: System C
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 10 of 12
Stress: 5120. psf

Project: MBDS
Boring No.: ---
Sample No.: 32-1
Test No.: C-4
Location: Boston, MA
Tested By: md
Test Date: 08/17/09
Sample Type: tube
Project No.: GTX-9197
Checked By: jdt
Depth: ---
Elevation: ---
Description: Wet, dark gray silt
Remarks: System C
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 11 of 12
Stress: 10240 psf

| Project: MBDS | Location: Boston, MA | Project No.: GTX-9197 |
| Boring No.: --- | Tested By: md | Checked By: jdt |
| Sample No.: 32-1 | Test Date: 08/17/09 | Depth: --- |
| Test No.: C-4 | Sample Type: tube | Elevation: --- |

Description: Wet, dark gray silt
Remarks: System C

Tue, 25-AUG-2009 12:39:34
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 12 of 12
Stress: 20480 psf

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<td>Test Date: 08/17/09</td>
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<tr>
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<tr>
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Tue, 25-AUG-2009 12:40:56
CONSOLIDATION TEST DATA
SUMMARY REPORT

Project: MBDS
Location: Boston, MA
Boring No.: ---
Tested By: md
Sample No.: 33-1
Test Date: 08/11/09
Test No.: C-2
Sample Type: tube
Description: Wet, dark gray silt
Remarks: System C

---

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Mon, 24-AUG-2009 09:50:59
### CONSOLIDATION TEST DATA
#### SUMMARY REPORT

| Overburden Pressure: --- | Water Content, % | 111.89 | 33.38 |
| Preconsolidation Pressure: --- | Dry Unit Weight, pcf | 42.67 | 92.1 |
| Compression Index: --- | Saturation, % | 100.00 | 100.00 |
| Diameter: 2.5 in | Height: 1 in | Void Ratio | 3.25 | 0.97 |
| LL: --- | PL: --- | PI: --- | GS: 2.91 |

### GeoTesting express
a subsidiary of Geocomp Corporation

| Project: MBDS | Location: Boston, MA | Project No.: GTX-9197 |
| Boring No.: --- | Tested By: md | Checked By: jdt |
| Sample No.: 33-1 | Test Date: 08/11/09 | Depth: --- |
| Test No.: C-2 | Sample Type: tube | Elevation: --- |

Description: Wet, dark gray silt
Remarks: System C

Mon, 24-AUG-2009 09:51:00
CONSOLIDATION TEST DATA

Location: Boston, MA
Tested By: md
Test Date: 08/11/09
Sample Type: tube

Soil Description: Wet, dark gray silt
Remarks: System C

Estimated Specific Gravity: 2.91
Initial Void Ratio: 3.25
Final Void Ratio: 0.97

Liquid Limit: ---
Plastic Limit: ---
Plasticity Index: ---

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<th>Container ID</th>
<th>Before Consolidation</th>
<th>After Consolidation</th>
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<td>Wt. Container, gm</td>
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<td>Degree of Saturation, %</td>
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Initial Height: 1.00 in
Specimen Diameter: 2.50 in

Note: Specific Gravity and Void Ratios are calculated assuming the degree of saturation equals 100% at the end of the test. Therefore, values may not represent actual values for the specimen.
CONSOLIDATION TEST DATA

Location: Boston, MA
Tested By: md
Test Date: 08/11/09
Sample Type: tube

Soil Description: Wet, dark gray silt
Remarks: System C

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<th>Applied Stress (psf)</th>
<th>Final Displacement (in)</th>
<th>Void Ratio</th>
<th>Strain at End (%)</th>
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CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 1 of 12
Stress: 10. psf

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<td>Checked By: jdt</td>
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CONsolidation test data

time curves
constant load step: 2 of 12
stress: 20. psf

Project: MBDS
Location: Boston, MA
Project No.: GTX-9197
Boring No.: ---
Tested By: md
Checked By: jdt
Sample No.: 33-1
Test Date: 08/11/09
Depth: ---
Test No.: C-2
Sample Type: tube
Elevation: ---
Description: Wet, dark gray silt
Remarks: System C
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 3 of 12
Stress: 40. psf

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Description: Wet, dark gray silt
Remarks: System C
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 5 of 12
Stress: 160. psf

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CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 6 of 12
Stress: 320. psf

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Description: Wet, dark gray silt
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 8 of 12
Stress: 1280. psf

Project: MBDS
Location: Boston, MA
Project No.: GTX-9197

Boring No.: ---
Tested By: md
Checked By: jdt

Sample No.: 33-1
Test Date: 08/11/09
Depth: ---

Test No.: C-2
Sample Type: tube
Elevation: ---

Description: Wet, dark gray silt

Remarks: System C
CONSOLIDATION TEST DATA

TIME CURVES
Constant Load Step: 9 of 12
Stress: 2560. psf

---

Project: MBDS  Location: Boston, MA  Project No.: GTX-9197
Boring No.: ---  Tested By: md  Checked By: jdt
Sample No.: 33-1  Test Date: 08/11/09  Depth: ---
Test No.: C-2  Sample Type: tube  Elevation: ---
Description: Wet, dark gray silt
Remarks: System C

---

Mon, 24-AUG-2009 09:52:08
## CONSOLIDATION TEST DATA

**TIME CURVES**

Constant Load Step: 11 of 12  
Stress: 10240 psf

### Graphs

**Graph 1:**
- **Dependent Variable:** STRAIN, %  
- **Independent Variable:** TIME, min  
  - Time range: 0.01 to 1000 min

**Graph 2:**
- **Dependent Variable:** STRAIN, %  
- **Independent Variable:** SQUARE ROOT of TIME, min  
  - Time range: 0 to 30 min

### Table

<table>
<thead>
<tr>
<th>Project: MBDS</th>
<th>Location: Boston, MA</th>
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<tr>
<td>Sample No.:</td>
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<td>Depth: ---</td>
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<tr>
<td>Test No.:</td>
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<td>Elevation: ---</td>
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<tr>
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<td>Remarks:</td>
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Mon, 24-AUG-2009 09:52:29
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 12 of 12
Stress: 20480 psf

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Mon, 24-AUG-2009 09:52:45
CONSOLIDATION TEST DATA
SUMMARY REPORT

Project: MBDS                                  Location: Boston, MA                         Project No.: GTX-9197
Boring No.: ---                              Tested By: md                                  Checked By: jdt
Sample No.: 36-1                             Test Date: 08/12/09                           Depth: ---
Test No.: C-3                                Sample Type: tube                             Elevation: ---
Description: Wet, dark gray silt
Remarks: System E

---

Mon, 24-AUG-2009 10:01:29
CONSOLIDATION TEST DATA
SUMMARY REPORT

| Overburden Pressure: --- | Water Content, % | 111.73 | 36.50 |
| Preconsolidation Pressure: --- | Dry Unit Weight, pcf | 42.82 | 88.5 |
| Compression Index: --- | Saturation, % | 99.98 | 100.00 |
| Diameter: 1.91 in | Height: 1.1 in | Void Ratio | 3.28 | 1.07 |
| LL: --- | PL: --- | PI: --- | GS: 2.94 |

| Project: MBDS | Location: Boston, MA | Project No.: GTX-9197 |
| Boring No.: --- | Tested By: md | Checked By: jdt |
| Sample No.: 36-1 | Test Date: 08/12/09 | Depth: --- |
| Test No.: C-3 | Sample Type: tube | Elevation: --- |
| Description: Wet, dark gray silt |
| Remarks: System E |

Mon, 24-AUG-2009 10:01:29
### CONSOLIDATION TEST DATA

**Project:** MBDS  
**Boring No.:** ---  
**Sample No.:** 36-1  
**Test No.:** C-3  

**Location:** Boston, MA  
**Tested By:** mj  
**Test Date:** 08/12/09  
**Sample Type:** tube  

**Soil Description:** Wet, dark gray silt  
**Remarks:** System E  

**Estimated Specific Gravity:** 2.94  
**Initial Void Ratio:** 3.28  
**Final Void Ratio:** 1.07  

**Liquid Limit:** ---  
**Plastic Limit:** ---  
**Plasticity Index:** ---  

**Initial Height:** 1.10 in  
**Specimen Diameter:** 1.91 in

<table>
<thead>
<tr>
<th>Container ID</th>
<th>Before Consolidation</th>
<th>After Consolidation</th>
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<tbody>
<tr>
<td></td>
<td>Trimmings</td>
<td>Specimen+Ring</td>
</tr>
<tr>
<td></td>
<td>4654</td>
<td>RING</td>
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<tr>
<td>Wt. Container + Wet Soil, gm</td>
<td>434.05</td>
<td>394.89</td>
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<td>Wt. Container + Dry Soil, gm</td>
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<td>Wt. Container, gm</td>
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<tr>
<td>Wt. Dry Soil, gm</td>
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<td>Water Content, %</td>
<td>97.07</td>
<td>111.73</td>
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<tr>
<td>Void Ratio</td>
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<td>3.28</td>
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<tr>
<td>Degree of Saturation, %</td>
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<tr>
<td>Dry Unit Weight, pcf</td>
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<td>42.822</td>
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**Note:** Specific Gravity and Void Ratios are calculated assuming the degree of saturation equals 100% at the end of the test. Therefore, values may not represent actual values for the specimen.
## CONSOLIDATION TEST DATA

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<tr>
<th>Applied Stress (psf)</th>
<th>Final Displacement (in)</th>
<th>Void Ratio</th>
<th>Strain at End (%)</th>
<th>T50 Fitting Sq.Rt. min</th>
<th>Log Sq.Rt. in^2/sec</th>
<th>Coefficient of Consolidation Log Ave. in^2/sec</th>
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<tbody>
<tr>
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<td>10</td>
<td>0.007297</td>
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Soil Description: Wet, dark gray silt

Remarks: System E

---

Location: Boston, MA
Tested By: md
Test Date: 08/12/09
Sample Type: tube

---

Project No.: GTX-9197
Checked By: jdt
Depth: ---
Elevation: ---
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 1 of 12
Stress: 10. psf

<table>
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<td>Test Date: 08/12/09</td>
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<tr>
<td>Test No.: C-3</td>
<td>Sample Type: tube</td>
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Description: Wet, dark gray silt
Remarks: System E
### CONSOLIDATION TEST DATA

**TIME CURVES**

Constant Load Step: 2 of 12  
Stress: 20. psf

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<th>Checked By</th>
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<tbody>
<tr>
<td>---</td>
<td>md</td>
<td>jdt</td>
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<table>
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<th>Test Date</th>
<th>Depth</th>
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<td>36-1</td>
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<td>C-3</td>
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**Description:** Wet, dark gray silt

**Remarks:** System E
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 3 of 12
Stress: 40. psf

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<tr>
<td>Sample No.: 36-1</td>
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<td>Test No.: C-3</td>
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<td>Remarks: System E</td>
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## CONSOLIDATION TEST DATA

**TIME CURVES**

Constant Load Step: 4 of 12  
Stress: 80. psf

### Graphs

- **Top Graph:** 
  - Linear scale for STRAIN (%)
  - Logarithmic scale for TIME, min

- **Bottom Graph:** 
  - Linear scale for STRAIN (%)
  - Linear scale for SQUARE ROOT of TIME, min

### Table

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<tr>
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<td><strong>Checked By:</strong></td>
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<td><strong>Sample No.:</strong></td>
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<td><strong>Test Date:</strong></td>
<td>08/12/09</td>
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<tr>
<td><strong>Depth:</strong></td>
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<tr>
<td><strong>Test No.:</strong></td>
<td>C-3</td>
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<tr>
<td><strong>Sample Type:</strong></td>
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<td><strong>Elevation:</strong></td>
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<td><strong>Description:</strong></td>
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<td><strong>Remarks:</strong></td>
<td>System E</td>
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**GeoTesting express**

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CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 5 of 12
Stress: 160. psf

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Mon, 24-AUG-2009 10:09:47
CONSOLIDATION TEST DATA

TIME CURVES
Constant Load Step: 6 of 12
Stress: 320. psf

STRAIN, %

TIME, min

0.01 0.1 1 10 100 1000

STRAIN, %

SQUARE ROOT of TIME, min 30

0 5 10 15 20 25

Project: MBDS
Location: Boston, MA
Project No.: GTX-9197
Boring No.: ---
Tested By: md
Sample No.: 36-1
Test Date: 08/12/09
Test No.: C-3
Sample Type: tube
Description: Wet, dark gray silt
Remarks: System E

Check By: jdt
Depth: ---
Elevation: ---

Mon, 24-AUG-2009 10:09:57
CONSOLIDATION TEST DATA

TIME CURVES
Constant Load Step: 7 of 12
Stress: 640. psf

---

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Project: MBDS  Location: Boston, MA  Project No.: GTX-9197
Boring No.: ---  Tested By: md  Checked By: jdt
Sample No.: 36-1  Test Date: 08/12/09  Depth: ---
Test No.: C-3  Sample Type: tube  Elevation: ---
Description: Wet, dark gray silt
Remarks: System E
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 8 of 12
Stress: 1280. psf

| Project: MBDS | Location: Boston, MA | Project No.: GTX-9197 |
| Boring No.: --- | Tested By: md | Checked By: jdt |
| Sample No.: 36-1 | Test Date: 08/12/09 | Depth: --- |
| Test No.: C-3 | Sample Type: tube | Elevation: --- |

Description: Wet, dark gray silt
Remarks: System E
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 9 of 12
Stress: 2560. psf

---

Project: MBDS
Location: Boston, MA
Project No.: GTX-9197
Boring No.: ---
Tested By: md
Checked By: jdt
Sample No.: 36-1
Test Date: 08/12/09
Depth: ---
Test No.: C-3
Sample Type: tube
Elevation: ---
Description: Wet, dark gray silt
Remarks: System E
CONsolidation TEST DATA
TIME CURVES
Constant Load Step: 10 of 12
Stress: 5120. psf

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<tr>
<td>Sample No.: 36-1</td>
<td>Test Date: 08/12/09</td>
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<tr>
<td>Test No.: C-3</td>
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<tr>
<td>Remarks: System E</td>
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CONSOLIDATION TEST DATA

TIME CURVES
Constant Load Step: 11 of 12
Stress: 10240 psf

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<td>Checked By: jdt</td>
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<tr>
<td>Sample No.: 36-1</td>
<td>Test Date: 08/12/09</td>
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<tr>
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Mon, 24-AUG-2009 10:10:36
CONsolidation test data
summary report

![Graph showing consolidation test data](image)

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<td>Boring No.: ---</td>
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<tr>
<td>Sample No.: 2-03</td>
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Description: Wet, dark gray silt
Remarks: System C

---

Mon, 14-SEP-2009 10:11:32
## CONSOLIDATION TEST DATA
### SUMMARY REPORT

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<td>Overburden Pressure: ---</td>
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<tr>
<td>Preconsolidation Pressure: ---</td>
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<td></td>
</tr>
<tr>
<td>Compression Index: ---</td>
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<td></td>
</tr>
<tr>
<td>Diameter: 1.91 in</td>
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<td></td>
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<tr>
<td>Height: 1.1 in</td>
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<td>LL: ---</td>
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<table>
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<td>Water Content, %</td>
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<td>Dry Unit Weight, pcf</td>
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<td>Saturation, %</td>
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<td>Void Ratio</td>
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<td>Description: Wet, dark gray silt</td>
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<tr>
<td>Remarks: System C</td>
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CONSOLIDATION TEST DATA

Location: Boston, MA
Test Date: 08/24/09
Sample Type: tube

Project No.: GTX-9197
Checked By: jdt
Depth: ---
Elevation: ---

Initial Height: 1.10 in
Specimen Diameter: 1.91 in

Soil Description: Wet, dark gray silt
Remarks: System C

Estimated Specific Gravity: 2.76
Initial Void Ratio: 3.49
Final Void Ratio: 1.17

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Note: Specific Gravity and Void Ratios are calculated assuming the degree of saturation equals 100% at the end of the test. Therefore, values may not represent actual values for the specimen.
### CONSOLIDATION TEST DATA

**Project:** MBDS  
**Location:** Boston, MA  
**Project No.:** GTX-9197  
**Boring No.:** ---  
**Sample No.:** 2-03  
**Test No.:** C-7A  
**Checked By:** jdt  
**Test Date:** 08/24/09  
**Depth:** ---  
**Elevation:** ---

**Soil Description:** Wet, dark gray silt  
**Remarks:** System C

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CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 1 of 12
Stress: 10. psf

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<tr>
<td>Sample No.: 2-03</td>
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<tr>
<td>Test No.: C-7A</td>
<td>Sample Type: tube</td>
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<tr>
<td>Description: Wet, dark gray silt</td>
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<td>Remarks: System C</td>
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Mon, 14-SEP-2009 10:16:30
CONSOLIDATION TEST DATA

TIME CURVES

Constant Load Step: 2 of 12
Stress: 20. psf

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<td>Checked By: jdt</td>
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**TIME CURVES**

Constant Load Step: 3 of 12  
Stress: 40. psf

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<tr>
<td>Sample No.:</td>
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<td>Test No.:</td>
<td>Sample Type: tube</td>
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Description: Wet, dark gray silt

Remarks: System C

---

**Graphs:**

- Upper graph: STRAIN % vs. TIME, min
- Lower graph: STRAIN % vs. SQUARE ROOT of TIME, min

---

**GeoTestGroup, express**

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---

Mon, 14-SEP-2009 10:12:50
CONSOLIDATION TEST DATA

TIME CURVES
Constant Load Step: 4 of 12
Stress: 80. psf

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Mon, 14-SEP-2009 10:13:02
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 5 of 12
Stress: 160. psf

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Mon, 14-SEP-2009 10:13:53
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TIME CURVES
Constant Load Step: 6 of 12
Stress: 320. psf

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<td>Remarks: System C</td>
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CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 7 of 12
Stress: 640. psf

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Mon, 14-SEP-2009 10:14:06
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TIME CURVES
Constant Load Step: 8 of 12
Stress: 1280. psf

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Mon, 14-SEP-2009 10:14:12
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 9 of 12
Stress: 2560. psf

Project: MBDS
Boring No.: ---
Sample No.: 2-03
Test No.: C-7A
Location: Boston, MA
Tested By: md
Sample Type: tube
Project No.: GTX-9197
Checked By: jdt
Depth: ---
Elevation: ---
Description: Wet, dark gray silt
Remarks: System C
CONSolidation Test Data

Time Curves

Constant Load Step: 10 of 12
Stress: 5120. psf

---

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Project: MBDS
Location: Boston, MA
Project No.: GTX-9197

Boring No.: ---
Tested By: md
Checked By: jdt

Sample No.: 2-03
Test Date: 08/24/09
Depth: ---

Test No.: C-7A
Sample Type: tube
Elevation: ---

Description: Wet, dark gray silt

Remarks: System C

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Mon, 14-SEP-2009 10:14:25
**CONSOLIDATION TEST DATA**

**TIME CURVES**

Constant Load Step: 11 of 12  
Stress: 10240 psf

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Mon, 14-SEP-2009 10:14:39
CONSOLIDATION TEST DATA
TIME CURVES
Constant Load Step: 12 of 12
Stress: 20480 psf

Project: MBDS          Location: Boston, MA          Project No.: GTX-9197
Boring No.: ---       Tested By: md               Checked By: jdt
Sample No.: 2-03      Test Date: 08/24/09         Depth: ---
Test No.: C-7A        Sample Type: tube          Elevation: ---
Description: Wet, dark gray silt
Remarks: System C
Appendix M

Crater Modeling Tool
Introduction

This memo details the development of a screening tool to predict crater formations from the placement of Boston Harbor dredged material at the Industrial Waste Site (IWS). Boston Harbor sediments are generally composed of relatively soft newer sediment, very stiff Boston Blue Clay (BBC), and dense glacial till that ranges in size from fine sand to boulders. Knowing the potential components of the dredged material, the research focused on two specific scenarios: 1) The potential impact of individual large rocks or clay chucks striking the native sediment; and 2) The potential impact of a cloud of dredged material striking the bottom. For a given impact scenario, sediment type, and sediment volume; the tool estimates the area of impact, the forces generated during impact, and the dimensions of the resulting crater.

While there exists a body of analytical work on the subject of sediment falling through the water column, most approaches require the use of coefficients and scaling factors that must be evaluated based on empirical results. Evaluating the impact of a single large particle was straightforward from an analytical and implementation point of view, so the particle impact scenario was considered first. The following sections provide an overview of the analytical methods used to develop the tool for particle impacts, and describes how the values of empirical constants were chosen. The calculation section describes how these methods were implemented in the tool. In addition, the impact of four different sized rocks and four different chunks of clay were evaluated to determine how the impact crater size depended on the size and shape of the impacting object. The issue of a sediment cloud impacting the bottom was then considered separately.

Particle Impact Component of the Tool

Theoretical Aspect of Particle Impacts

In general the scenario of large individual rocks or clay chunks (generally called “particles”) striking the bottom is relatively simple compared to the impact of a collection of particles in a sediment cloud. The conceptual model for particle impact starts with the release of the particle at the water surface. It was assumed that the particle was initially at rest and therefore had no initial velocity.

The particle falls through the water column at a velocity until it impacts the sediment, at which point an impact crater is formed and the particle comes to rest in the crater. The actual impact event is assumed to be very fast, so that it can be considered as an impulse-type reaction.

As the particle falls through the water column, it accelerates due to gravity while the fluid drag force works to oppose the acceleration of the particle. If the water column is sufficiently deep, the fluid drag force will eventually equal the force due to gravity and the particle will reach terminal velocity. The depth at the IWS allows for the assumption that the particles will reach terminal velocity or \( V_t \), given by the Equation 1a and 1b for both spherical and cubic particles:

\[
V_t = \sqrt{\frac{4gD}{3C_{DW}}} \left( \frac{\rho_s - \rho_w}{\rho_w} \right) \quad \text{(For a sphere)} \tag{1a}
\]

\[
V_t = \sqrt{\frac{2gD}{C_{DW}}} \left( \frac{\rho_s - \rho_w}{\rho_w} \right) \quad \text{(For a cube)} \tag{1b}
\]

Where:

\( \rho_s \) = Unit mass of the particle,
\( \rho_w \) = Unit mass of the water,
\( D \) = Characteristic length (diameter or edge),
\( C_{DW} \) = Drag coefficient in water,
\( g \) = Acceleration due to gravity.
The actual magnitude of terminal velocity will depend on the material type (granite versus BBC), the size of the particle, the shape of the particle, and the drag coefficient. For a cube and a sphere of the same material with an equivalent edge length or diameter, the cube will have greater volume and therefore greater mass than the sphere. However, the cube would also have a higher drag coefficient, which would increase the drag force as it fell through the water. The drag coefficient for a sphere is 0.47, while it is 1.05 for a cube with the direction of flow perpendicular to the face of the cube and is 0.8 for a cube when the flow direction is parallel to a diagonal. It was assumed that a drag coefficient of 0.9 was reasonable for a cube tumbling through the water column. The different drag coefficients dictate that for a spherical clay chunk and a cubic clay chunk of similar size (diameter similar to edge length) the spherical chunk will have a higher terminal velocity due to the lower drag coefficient. However, the volume of a cube will increase more rapidly than the volume of a sphere as the edge and diameters increase. As a result, the mass of a cubic particle will increase more rapidly with size than for a spherical particle, which dictates that the momentum and kinetic energy of the cubic particles will actually be greater than that for spherical particles.

The calculated terminal velocity \( V_t \) and the mass of the particle were then used to calculate the kinetic energy of the particle, which was then fed into the simplified cratering calculations developed by H.J. Melosh and R.A. Beyer, an online version of which are at [http://www.lpl.arizona.edu/tekton/crater_c.html](http://www.lpl.arizona.edu/tekton/crater_c.html). The Fortran code for their model is available at [http://www.lpl.arizona.edu/tekton/crater.for](http://www.lpl.arizona.edu/tekton/crater.for). Their approach used \( \pi \)-scaling methods to estimate the physical characteristics of the resulting impact crater based on measured properties of laboratory and real impact craters. The calculation algorithms were developed by analyzing a database of impact craters to determine which factors were most critical for estimating the size and depth of the craters. The \( \pi \)-scaling methods then allowed the algorithms to be applied to particles with different sizes and densities. These calculations are not specific to sediment but were instead developed from measurements of impact craters in a variety of materials. However, they do provide an estimate of the crater diameter (rim to rim), crater depth (from the pre-impact sediment elevation), and the time required for crater formation.

While the kinetic energy can be calculated from Newton’s Second Law, the equations used to estimate the crater diameter and depth were based on measurements of real craters to develop scaling factors. For consistency, initial work on this screening tool started with the coefficient and exponent values developed by Melosh and Beyer for impacts in saturated soil. These factors may lead to results that are more conservative than what would be observed in the field due to the mass and viscosity of the overlying water in an aquatic placement scenario.

To calculate the peak force during impact it was assumed that the impact event could be considered an impulse reaction. An impulse reaction is a very fast reaction in which a force \( F \) acts over a short time \( dt \) which causes a change in momentum \( \Delta P \) (Equation 2).

\[
\Delta P = \int_0^t F \, dt
\]

If it is assumed that the mass is constant, that the deceleration curve has a sine wave shape, and the length of time \( dt \) for crater formation is can be obtained from the cratering model, then the peak force developed during the impact event can be calculated. The sine wave shape of the deceleration curve is an idealized form of the deceleration behavior observed during the impact of a free fall cone penetrometer in sediment (Mulukutla et al., 2011). Based on these assumptions, the peak force, the peak stress (peak force over the cross-sectional area), and the depth of influence were determined.

The actual calculations used in the particle analysis part of the tool are described below.

**Particle Calculations**

As discussed above, the shape of the particle dictates the energy and momentum of the particle at impact. The calculations were developed for a cubic particle since it would have a higher momentum and therefore would represent a more conservative approach. In order to calculate the impact of a particle on
the sediment bottom, certain input values must be provided. The following list summarizes the required input data.

\( \rho_s = \) Unit mass of the particle (kg/m\( ^3 \))
\( \rho_w = \) Unit mass of the water (kg/m\( ^3 \))
\( D = \) Characteristic length (Diameter or Edge) (m)
\( C_{DW} = \) Drag coefficient in water
\( g = \) Acceleration due to gravity (m/s\( ^2 \))
\( \rho_{sed} = \) Unit Mass of target sediment (kg/m\( ^3 \))

The mass of a spherical particle is then:

\[
m = \rho_s D^3
\]  

(3)

The velocity of the particle (assuming terminal velocity) is given by Equation 1b:

\[
V_t = \sqrt{\frac{2gD}{C_{DW} \rho_w} \left( \frac{\rho_s - \rho_w}{\rho_w} \right)}
\]

(4)

The kinetic energy of the particle (KE) is equal to:

\[
KE = \frac{1}{2} m V_t^2
\]

(5)

The crater diameter \( D_c \) is derived using the model by Melosh and Bayer:

\[
D_c = 1.56 \left( 1.6 \left( \frac{m}{(\rho_{sed} - \rho_w)} \right)^{0.33} \left( \frac{1.61 g D}{V_t^2} \right)^{-0.22} \right)
\]

(6)

The coefficient 1.6 and the exponent 0.22 are values taken from the Melosh and Bayer code for an impact in saturated soil. The coefficients 1.56 and 1.61 and the exponent 0.33 are also constants from the code which were used for consistency.

The depth \( h \) of the resulting crater was found using the relationship \( h=D_c/5 \), which is the same relationship used by Melosh and Bayer.

The time for crater creation is given by (Melosh and Bayer):

\[
T_D = \left( \frac{0.8D}{V_t} \right) \left( \frac{1.61 g D}{V_t^2} \right)^{-0.61}
\]

(7)

The coefficient 0.8 and the exponent 0.61 are constants that were used by Melosh and Bayer.

The acceleration \( a_o \) can be found by assuming an impulse reaction:

\[
\Delta P = \int_0^{T_D} Fdt = mV_t = m \int_0^{T_D} a_o \sin \left( \frac{\pi}{T_D} t \right) dt
\]

\[
a_o = \frac{\pi V_t}{2T_D}
\]

(8a)

(8b)

The peak force \( F_p \) is then just \( F_p=ma_o \). The peak contact pressure \( \sigma_p \) is then peak force divided by the cross sectional area \( A \) of the particle.
The depth of influence was found by modeling the impact at peak load as a uniform circular load with a diameter equal to the diameter of the particle. According to Boussinesq’s Theory, the vertical soil stress \( \sigma_v \) under the particle is simply \( \sigma_v = \sigma_p A_i \) where \( A_i \) is the influence factor determined by the location at which the stress is being measured. The vertical stress was measured directly under the particle to a depth of five diameters, which corresponds to a 95\% reduction in the applied stress at the surface. The depths (expressed as a ratio of depth to radius) and the influence factors are shown below in Table 1.

**Table 1:** Influence factors for a round uniform circular load with depth.

<table>
<thead>
<tr>
<th>Depth Divided By Radius</th>
<th>Influence Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>0.2</td>
<td>0.804</td>
</tr>
<tr>
<td>0.4</td>
<td>0.629</td>
</tr>
<tr>
<td>0.6</td>
<td>0.486</td>
</tr>
<tr>
<td>0.8</td>
<td>0.375</td>
</tr>
<tr>
<td>1</td>
<td>0.293</td>
</tr>
<tr>
<td>1.2</td>
<td>0.232</td>
</tr>
<tr>
<td>1.5</td>
<td>0.168</td>
</tr>
<tr>
<td>2</td>
<td>0.106</td>
</tr>
<tr>
<td>3</td>
<td>0.051</td>
</tr>
<tr>
<td>4</td>
<td>0.03</td>
</tr>
<tr>
<td>5</td>
<td>0.019</td>
</tr>
<tr>
<td>10</td>
<td>0.005</td>
</tr>
</tbody>
</table>

Concrete Loading as a Function of Depth

It is useful to consider these loads applied to a concrete slab to better understand the magnitudes of the stresses resulting from impact. Consider a 2 m long by 1 m wide slab of concrete simply supported at the narrow edges. Then apply the contact pressure \( \sigma_o \) uniformly over the slab. The pressure applied to the slab will cause it to bend, and break if the pressure is too great. The greatest stress would be at the bottom of the slab, halfway between the ends. The magnitude of the bending stress \( \sigma_b \) is given by

\[
\sigma_b = \frac{3ql^2}{4bh^2}
\]

where:
- \( \sigma_b \) = the bending stress,
- \( q \) = the load per unit length,
- \( l \) = length of the slab,
- \( b \) = width of the slab,
- \( h \) = thickness of the slab.

In the impact scenario of a 1 meter particle impacting the sediment, the pressure at peak load was 35 kPa, so the load per unit length would be 35 kN/m or the pressure multiplied by the area of the slab to get the load and then divided by the length to get the load per unit length. The slab length \( l \) is 2 m, and the width \( b \) is 1 m. The flexural strength of concrete, or strength of a concrete beam in bending, is often taken to be 10\% – 20\% of its compressive strength. Assume that the concrete slab is similar to a sidewalk slab and made with 5000 psi concrete. In SI units, the compressive strength would be 34,500 kPa and the flexural strength would be 3,450-6,900 kPa (10\%-20\% of compressive strength). Rearranging the bending stress equation to solve for the thickness \( h \) gives:
Using the values given above and using the lower strength value of 3,450 kPa results in a slab thickness of 0.17 m (6.9 in) required to resist the applied load, while using the higher end strength value results in a slab thickness of 0.12 m (4.9 in). These thicknesses may seem large when comparing the strength of sediment to the strength of concrete, but also consider that the above calculation was for a concrete slab taking the full impact load. At a depth of 1 particle radius or 0.5 m, the stress has been reduced by 0.293 (see Table 1), which results in a reduction of required thickness to 0.09 m (3.7 in) using the 3,450 kPa strength value. At a depth of 2 particle radii or 1 m, the thickness reduces to 0.06 m (2.2 in).

The above exercise is not meant to show that a concrete waste container would survive a direct hit from 1 m diameter chunk of clay. It does show that sediment provides a significant buffer from particle impacts, and that containers buried in the native sediment and further covered by dredged sediment should be well protected from impacts of large particles.

Scenario Study

After completing the particle impact components of the tool, a set of impact scenarios was evaluated. The study considered how the crater diameter changed due to the shape and size of the particles. Spherical and cubic clay chunks with a diameter or edge length of 0.25, 0.5, 1 and 2 meters were considered. As discussed earlier, round chunks will have a higher terminal velocity due to their reduced drag, while a cubic chunk with a comparable edge length will have a greater mass. Both mass and velocity determine the kinetic energy at impact, which in turn dictates the crater diameter. This study quantified how changes in size and shape lead to changes in the crater diameter.

The results showed that the difference in crater diameter between similarly sized spherical and cubic particles was small over the range of sizes considered. The craters from cubic chunks were larger than the craters from spherical chunks, due to the greater kinetic energy caused by the greater mass. The impact crater diameter from a 2 m cube was 1 m greater than the crater caused by a sphere with a diameter of 2 m, an increase of 20%. Crater depths were comparable between similarly sized spheres and cubes except at the extreme end of the impact scenarios where cubic particles resulted in slightly deeper craters. Table 2 summarizes the input data and results used in the study.
Table 2: Summary of input data and resulting crater diameters for spherical and cubic clay particles of different sizes.

<table>
<thead>
<tr>
<th></th>
<th>Spherical Clay Particle</th>
<th>Cubic Clay Particle</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\rho_s$ (Unit Mass of the particle, kg/m$^3$)</td>
<td>1876 1876 1876 1876</td>
<td>1876 1876 1876 1876</td>
</tr>
<tr>
<td>$\rho_w$ (Unit Mass of the water, kg/m$^3$)</td>
<td>1030 1030 1030 1030</td>
<td>1030 1030 1030 1030</td>
</tr>
<tr>
<td>D (Characteristic Length (Length or Diameter, m))</td>
<td>0.25 0.5 1 2</td>
<td>0.25 0.5 1 2</td>
</tr>
<tr>
<td>$C_{DW}$ (Drag coefficient in water)</td>
<td>0.48 0.48 0.48 0.48</td>
<td>0.9 0.9 0.9 0.9</td>
</tr>
<tr>
<td>g (Acceleration due to gravity, m/s$^2$)</td>
<td>9.8 9.8 9.8 9.8</td>
<td>9.8 9.8 9.8 9.8</td>
</tr>
<tr>
<td>$\rho_s$ (Unit Mass of sediment, kg/m$^3$)</td>
<td>1450 1450 1450 1450</td>
<td>1450 1450 1450 1450</td>
</tr>
<tr>
<td>m (Mass of particle, kg)</td>
<td>7 55 443 3544</td>
<td>13 106 846 6768</td>
</tr>
<tr>
<td>$V_t$ (Terminal velocity, m/s)</td>
<td>2.4 3.3 4.7 6.7</td>
<td>2.1 3.0 4.2 6.0</td>
</tr>
<tr>
<td>KE (Particle kinetic energy, J)</td>
<td>19 310 4952 79235</td>
<td>30 473 7566 121062</td>
</tr>
<tr>
<td>$D_{\text{simple}}$ (Crater Diameter, m)</td>
<td>0.5 0.9 1.8 3.6</td>
<td>0.5 1.1 2.1 4.3</td>
</tr>
<tr>
<td>Depth (Crater Depth, m)</td>
<td>0.1 0.2 0.4 0.7</td>
<td>0.1 0.2 0.4 0.9</td>
</tr>
</tbody>
</table>

Given that the impact velocity of a particle is a function of its shape and density, and that the impact momentum of the cubic particles was always greater than for the spherical particles, the conservative approach would be to use cubic particles for design purposes. This is the approach that was implemented in the design tool. Figure 1 shows modeled crater diameter and depths for cubic particles plotted as a function of the particle edge length.

Figure 1: Predicted crater dimensions from the impact of a cubic particle at the IWS plotted as a function of the impacting particle edge length.
Sediment Cloud Impact Component of the Tool

Sediment Cloud Impacts

Describing the descent and impact of a sediment cloud is much more complex than describing the impact of a single particle because the sediment cloud involves the interaction of a large number of particles of different sizes as well as the entrainment and mixing of the surrounding fluid as the cloud falls. In general, the behavior of dredged sediment cloud depends on the particles sizes, water content, density, the size of the cloud, velocity, and whether or not the particles are cohesive. Work by Ruggaber (2000) and Gensheimer (2010) from the Massachusetts Institute of Technology specifically looked at modeling sediment clouds and how to relate real sediment properties to current models that describe cloud behavior using the entrainment coefficient ($\alpha$), drag coefficient ($C_D$), and the added mass coefficient ($k$).

Conceptually, the descent of a sediment cloud is in some ways similar to the descent of a particle. When a load of dredged sediment is released into the water column the sediment “slug” has a higher density than the surround seawater and begins to sink. The sediment slug falls though the water column until it impacts the sediment. What is different about the behavior of the sediment slug compared to a particle is that the slug entrains water, so its density decreases, and the shape and volume of the slug changes due to interactions with the surrounding fluid. In general the behavior of the sediment can be defined by three distinct phases:

1. Convective Descent: The sediment load falls through the water column due to the negative buoyancy of the sediment volume.
   a. Thermal Phase - Initially the sediment volume takes on the properties of a “thermal”, a term from fluid mechanics that describes how the sediment behaves as a dense fluid cloud that slows and flattens as it descends. The thermal phase is marked by the growth of eddies and a vortex ring shape. The vortex flow entrains water into the cloud, but also keeps particles circulating in the cloud so that sediment is not being lost.
   b. Dispersive Phase – As the thermal cloud continues to slow, its velocity will eventually become less than the terminal velocity of the largest particles; causing the largest particles to fall out of the cloud and descend on their own.

2. Dynamic Collapse: This phase occurs when the cloud impacts the bottom sediment, or when the buoyancy of the cloud becomes neutral. At neutral buoyancy the cloud will stop descending and will spread horizontally in the water column.

3. Passive Diffusion: The sediment particles on the bottom move due to the ambient currents.

Figure 2 illustrates the different phases of the sediment cloud descent. The convective descent and dynamic collapse phases are of the greatest interest to this effort since they determine the size and velocity of the sediment cloud at impact.

![Figure 2: An illustration of the elements of dredged sediment descent. (Truitt, 1986)]
The approach taken to determine the impact of the sediment cloud was similar to that of a particle. By calculating the mass and velocity of the cloud at impact, the change in momentum could be determined and adjusted for horizontal spreading, which would be used to determine the peak force.

Initially, work focused on using the basic radius relationship $r = \alpha z$ to determine the radius at impact. In this case $z$ is the depth and $\alpha$ was described above. Knowing the radius would allow determination of the cloud volume, and by assuming that mass is conserved (no sediment is lost), the cloud bulk density could be determined. However, this approach did not lend itself to determining the velocity with depth or at impact. The main issue was that water is entrained into the sediment cloud, reducing the bulk density which in turn reduces the negative buoyancy force. In addition, drag also acts on the surface of the sediment volume, reducing the volume. Alternative methods all suffered from the same inherent flaw, that using empirical relationships to estimate one parameter (radius for instance) led to unrealistic values for related quantities (volume).

Instead the USACE model STFATE was used to step through the cloud descent in small increments to apply the drag force, water entrainment, and other terms to estimate the impact velocity and volume. While there may be issues with how STFATE determines mounding of dredged sediment, Ruggaber (2000) found the following when studying Boston Blue Clay:

"Forward modeling suggests that an integral-type model, such as STFATE used with constant coefficients, performs quite well (i.e., 10% accuracy) in simulating particle cloud behavior (i.e., velocity deceleration and radial growth rate) in the "thermal" phase but over predicts cloud growth in the "circulating thermal" phase by 10-25%.”

The circulating thermal phase occurs late in the descent, if at all, and is marked by a decreased rate of radial expansion. Modeling this phase would require a revised value of $\alpha$ to estimate the cloud. However, Ruggaber (2000) found that in general the cloud would remain in the thermal phase in depths of approximately 100 m, and as long as the fraction of large particles was relatively small. These results suggested that STFATE would be an efficient and accurate way to evaluate the descent of a sediment cloud at the IWS.

STFATE essentially steps through the convective descent phase of a dredged sediment cloud using short time increments. Once the cloud reaches the bottom, STFATE switches to the collapse phase and steps through the process of the sediment cloud impacting the bottom. STFATE assumes that the sediment cloud has the form of an ellipsoid, and that the density is uniform throughout the cloud. At the beginning of the collapse phase, STFATE provides the dimensions of the ellipsoid, the difference between the density of the cloud and the surrounding water, and the velocity of the cloud centroid. By examining the change in velocity with time, the length of the collapse phase can also be determined. Using the above data, all the required input information for the crater formation model can be determined, and the resulting crater properties can be calculated. The calculations are described below.

**Cloud Calculations**

The following data needed to calculate the cloud properties are taken from the STFATE output files.

- $L_1$ = Length of Major Axis of Ellipsoid
- $L_2$ = Length of Minor Axis of Ellipsoid
- $H$ = Height of Ellipsoid
- $\Delta \rho$ = Density Difference
- $g$ = Gravitational Constant
- $V_c$ = Centroid Velocity
- $\rho_{sed}$ = Unit mass of sediment
- $T_c$ = Collapse Time
- $\rho_w$ = Unit Mass of the water
The volume of the ellipsoid \( V_e \) is given by Equation 11:

\[
V_e = \frac{\pi}{6} L_1 L_2 H
\]  

(11)

The mass of the sediment cloud is then the bulk density of the cloud multiplied by the volume of the ellipsoid. However, STFATE does not explicitly provide the bulk density of the cloud. Instead the difference between the density of the cloud and the surrounding water is given. The cloud bulk density is then the difference in densities added to the density of water. The mass of the sediment cloud is then:

\[
m = (\rho_w + \Delta \rho)V_e
\]  

(12)

The velocity at impact is already given by STFATE. The time required for collapse can be determined by examining when the collapse started, and when it stopped. The time to reach 99% reduction in the downward velocity was chosen as the end point for the collapse process. With the above information, the crater diameter \( D_c \) could be found using Equation 6, the depth could be found using the relation \( h = D_c/5 \), and the pressure could be found using Equation 7, similar to the particle calculations.

However, after reviewing the physics of the cloud impact, it became clear that the physical processes involved were different than those for a particle impact. In particular, the density of the cloud was less than the density of the target material, and it was deformable, as opposed to a solid particle. This led to the model under predicting the diameter and depth of the resulting crater. The model assumptions were then calibrated to the data generated from the demonstration project, changing the general scaling factors in order to address the change in the cratering process. The average diameter of individual craters from the demonstration project was 72.8 m compared to the average crater diameter from the model output of 35.7 m. The general scaling coefficient was increased to 3.4 to align the mean model output with the mean observed crater diameter.

Similarly, the depths of the demonstration project craters and the STFATE craters were compared as well. However, since the depth of the crater is critical to determining the potential for disturbance to the underlying sediment or waste containers, the average crater depth was compared to the average STFATE depth minus one standard deviation. This is a more conservative approach resulted in a scaling relationship between the crater depth and diameter of \( h_{crater} = \frac{D_{crater}}{220} \). When applied to the STFATE results, the craters were generally around 74 m in diameter and 0.34 m in depth. Figure 3 plots the predicted crater diameters and depths for 12 model simulations with the mean crater dimensions from the demonstration project provided as a reference.

**Figure 3:** Predicted crater dimensions from the impact of a barge load of dredged material at the IWS. Blue symbols represent the crater diameter, red symbols represent the crater depth; mean demonstration crater dimensions provided as reference.
References

Gensheimer, RJ. (2010). Dynamics of particle clouds in ambient currents with application to open-water sediment disposal, Master’s Thesis, Massachusetts Institute of Technology, Cambridge, MA.


